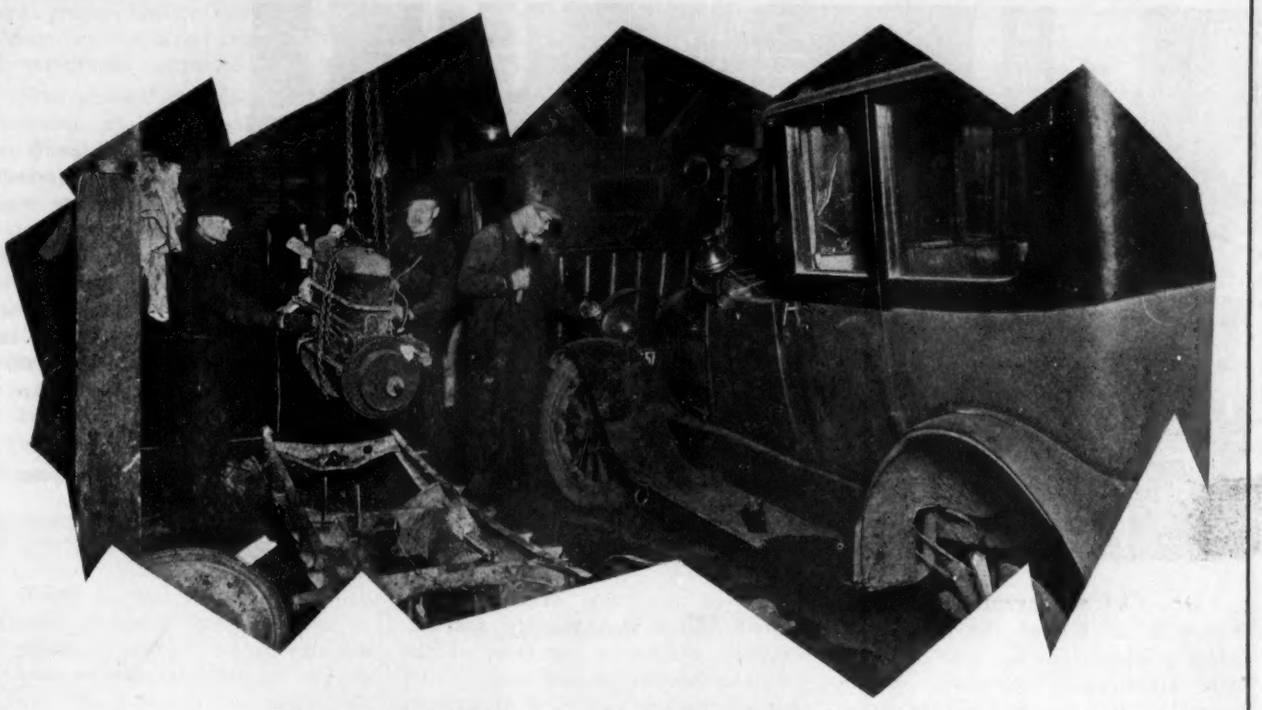


Many cars end their career of usefulness in wreckers' shops

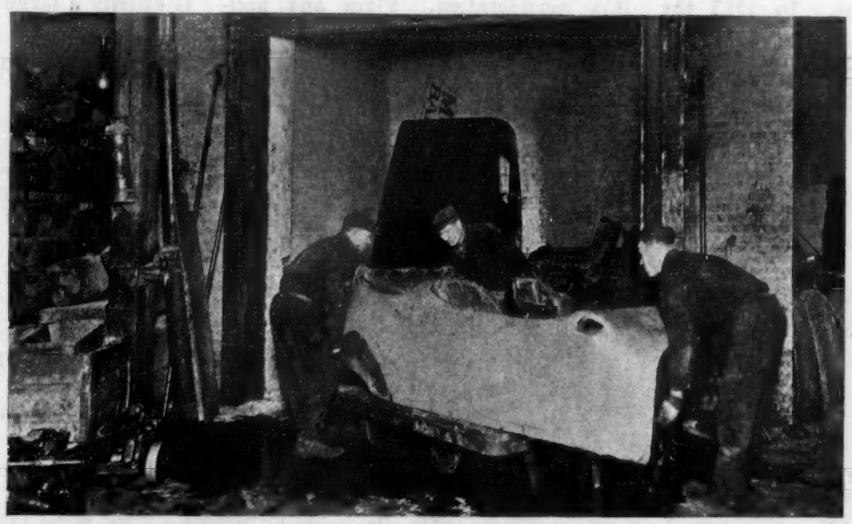
Scrap Heap Claims Thousands of Automobiles Annually

By E. C. Barringer

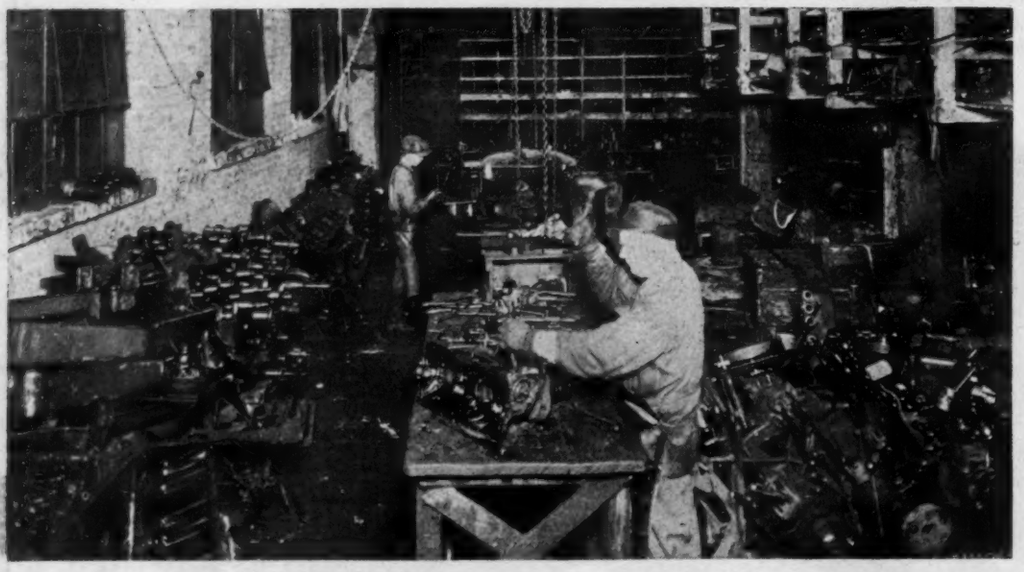
FIVE years ago it stood pridefully on the automobile sales floor. Alluring in its fresh paint and coach work, spotless under hood and fenders, fleet of line and complete in every appointment, it was resplendent enough to still the purchaser's lingering doubts concerning those monthly payments.

But now it is through. Finish gone, fenders crumpled, upholstery soiled and torn, lines ungainly when contrasted with current models, its third, or perhaps fourth owner exacts a final credit on a new car or calls in a wrecker. Twenty-five dollars, rarely more than fifty is offered. At the end of a tow line it goes to the wrecking yard.

Harsh hands, armed with cold chisels and hammers, attack it. The body is stripped, cut loose from the frame and thrown over on its side. The radiator is detached, the universal joints are severed, a chain is slipped around the motor, a sledge frees the subframe and the motor swings free. One less used car hangs over the new car market but there is more steel, cast and nonferrous scrap



Automobile Body Going into Fire Chamber. All Useful Parts First Are Removed, Then the Wood Is Burned off the Metal Body



The motor is completely dissembled, except late models. The parts are placed in appropriate piles. Later inspection determines what shall be saved and what thrown on the scrap pile

to harrass an already glutted market.

This is a side of the automobile industry which thus far has attracted little attention. The speed of the assembly line, the marvels of mass production, the purchasing power consonant with the consumption of one-sixth of the country's output of finished steel, the personal appeal of a new car, these overshadowed all else.

There is, however, a saying that what comes out of the cupola and open hearth must return, and the automobile is no exception. With the production of passenger cars and trucks exceeding 4,000,000 annually and registrations crossing the 22,000,000 mark, each year must logically see the passing of more cars. The disposal of wornout, wrecked and burned cars is an expanding problem.

How many cars and trucks pass out of the picture in a given year is impossible to determine. In 1925 the output of cars and trucks in the United States was slightly over 4,300,000. Stocks at the close of the year are thought to have been smaller than at the beginning. With exports not quite 303,000 and imports less than 1000, the net gain in the domestic supply was approximately 4,000,000. Yet registrations in all states last year exceeded those for 1924 by only 2,430,000.

Many to Account For

Here are some 1,500,000 cars and trucks to be accounted for. A good many, doubtless, are rusting in back lots or have been pushed into abandoned quarries as an easy and quick method of disposal. More than one corn sheller or feed cutter down on the farm is being turned over by a former touring car engine. A surprisingly large number of used cars is shipped out of the country, but exports have already been taken into consideration. Fires and accidents, of course, take a steady toll.

Scrapping or wrecking, as it is coming to be known, probably accounts for the largest number and the stream of obsolete and worn-out cars into wrecking yards is steady. One automobile business paper estimates that fully 1,000,000 cars were scrapped last year, but considering that the wrecking firm in Chicago which claims to be the largest in the country handled only 3000, this figure appears to be high.

In the country districts and the smaller towns the "junk man" buys old automobiles much as he does broken farm implements, painstakingly demolishes them, classifies the scrap and sells it to the city dealers when the market is attractive. In the larger cities a number of wrecking firms have sprung up, and here the recovery of saleable parts is fully as important as the accumulation of scrap. The front of a wrecking yard is usually a large salesroom for parts.

Accumulation of rear axles and housings. These are more thoroughly sorted, and most of them consigned to the heavy melting steel pile

Rarely does the iron and steel scrap yard proper handle automobiles, but it does buy the scrap from the wrecking yards and distribute it.

Three classes of cars figure in the operation of these yards, the car that has been in a wreck and is deemed beyond repair, the car that has been through a fire, and the car that is obsolete, wornout or plain junk. As little as $10 is frequently paid. It is rare when a car commands $100. Probably $25 to $35 covers a majority of cases. In almost every instance the appraisal is individual, and the seller has little opportunity to bargain.

The practice that obtains in the larger and better equipped yards may be glimpsed by following a car through the various departments of Warshawsky & Co., Chicago. One of two buyers has appraised the car, paid cash for it and had it towed to the yard. The seller must present a bill of sale and the state license registration list is searched to make certain the seller is the owner.

Inspection Comes First

In due time the car comes upon the wrecking floor. The heads of the body, motor, rear end, radiator and other departments inspect it carefully and make one of two decisions, save or scrap. As a rule any part that gives promise of resale is saved, but occasionally there is a surfeit of parts and good condition counts for naught. The decision of these department heads is recorded in chalk, a cross meaning to scrap and a circle to save.

Those parts bearing a circle are tagged. The name of the car, the year and the model are recorded, and the tag accompanies the part until sold. Very rarely is an entire body saved. The wrecking crew, which usually comprises five men, now comes on the scene. Whether its ministrations are gentle or rough depends upon the circle or the cross. Such a crew can tear down four or five cars a day.

If the car is a closed one, the salvable glass is removed. The instrument board is stripped, headlights taken off, fenders unbolted or ripped off according to marking, the hood lifted off and the engine stripped of its carburetor, distributor head, coil and similar parts. These usually are saved. The aluminum moldings in the interior and on the running boards are pried off.

Not often can the cushions be saved in their entirety but there is a scrap value in the felt, hair, moss, leather and other materials. When everything of value, scrap or salvage, has been removed from the body a few hammer blows sever the body bolts and rivets, and the body is pushed off. In a concrete or brick-lined fire chamber the wood and other encumbering material is burned off. The sheet steel or aluminum is put through an alligator shear or otherwise prepared for sale, the steel being classified as No. 2 busheling.

The radiator is detached. While the lugs are being loosened and the tires made ready for removal the remainder of the crew severs the universal joint and loosens the spring shackles. A chain is wrapped around the motor, the subframe freed and the motor hoisted out. The motor is deposited on a skid which is trucked to an elevator and taken to the motor room.

Use Torch or Shear On Frames

The tires are removed, the springs unfastened from both the front and rear axle and frame, and the frame is available for either the shear or the torch. Almost invariably frames are in excellent condition, but there is no call for them. The lighter-section frames are cut up by the shear, while the torch is used on the heavier ones. In either case, heavy melting steel results.

Alligator Shears Are Used to Cut up Light Car Fra mes. Heavier Frames Are Cut Apart With a Torch

The propellor shaft is left attached to the rear axle. If the springs are not to be stocked for resale they are thrown in with the heavy melting steel. Running board supports, brake rods and shorter lengths of steel are classified as shoveling steel. When the rear ends are dissembled, the gears, propellor shaft and similar heavy parts come out as heavy melting steel while the pressed steel or cast housings are set apart as either shoveling steel or No. 1 automobile cast.

An obviously good motor or one

removed from a late model is held intact. The price put upon motors range upward from about $15 for a Ford motor. The great majority of all motors, however, are torn down, the parts inspected and saved or scrapped as the case may be. If scrapped, the greatest economy is employed. All bolts, nuts, washers and similar small parts are saved. These are sold at 98 cents for a 20-pound can. Spark plugs are collected and put on the counter at 5 cents, and so on.

In the motor department the scrap parts are carefully assorted. The rubber hose connections are placed on one pile. The aluminum crank cases are separated from the cast iron blocks. The bronze or brass water pumps or impellers are sorted. The babbitt in the bearings is removed for its higher scrap value. It has been found to pay in scrap value to take pains to segregate the ferrous and nonferrous scrap.

Ferrous scrap falls into four classifications, heavy melting steel, shoveling steel, No. 2 busheling and No. 1 automobile cast. No effort is made to prepare the scrap for the cupola or open hearth other than to cut the steel and busheling to size. Motor blocks are sold unbroken. The alloy springs, gears and axles are not separated from the softer steel parts.

Alloy Scrap Is a Problem

In eastern Pennsylvania the inclusion of alloy steel parts in scrap for the cupola, open-hearth or electric furnace has been of sufficient volume to compel melters to watch their purchases, and considerable attention is being given to the rising tide of automobile scrap. In the Central West dealers purchasing scrap from the automobile wrecking yards have not encountered any difficulties because the percentage of alloy steel scrap has been practically negligible. Dealers spread their automobile scrap accumulations thinly and melters do not object. Most foundries do take exception, however, to receiving entire motor blocks and frequent rejections occur. The situation is remedied by putting the blocks under the drop.

The tonnage of scrap is as difficult to ascertain as the actual number of cars scrapped. The average weight of cars now coming through is about 2500 pounds. The proportion of closed cars, meaning heavier cars, is growing as the later models appear. Well over three-fourths of the average car weight is salvagable in some form or other. If 1,000,000 cars were scrapped last year, as one estimate puts it, some 900,000 tons of scrap, the great bulk of it ferrous, was produced. Again scrap dealers and wrecking houses believe this figure to be high. The tonnage is increasing each year.

As the later models come into the wrecking yard the proportion of nonferrous scrap decreases. The higher priced cars have aluminum bodies, and nearly all have aluminum moldings and trim. Many crank cases are aluminum, and sometimes the fans. Brass and bronze are to be found in carburetors, manifolds, bushings, petcocks, bearings, tubing, and headlight reflectors.

Radiators, rear axle housings and fenders rank as the three salvage parts in greatest demand. Crank shafts and cam shafts are about the slowest moving lines. As a rule Fords are not considered good buys because the factory list price of spare parts is so low. Retail prices of salvage parts usually are about one-half the factory list. Costs are uncharted, as the labor charge of tearing down cars varies widely and the salable parts may be carried in stock several years.

Gears and similar parts operating in a bath of oil or grease are steamed or washed in hot water solution. The crank case oil, transmission and rear end grease are frequently collected and sold. Radiators are not repaired until sold. Lamp rims are a fast moving line. One make of car that has a reputation for speed and power is always acceptable on account of the demand for its radiators. Occasionally a wrecker will have a standing order for a certain part of an "orphan" and he may be as anxious to buy as an owner is to sell.

The average wrecking yard salesroom is a port of missing parts. Who remembers the Ace, Carnation, Glide, Nelson, American, Thomas Flyer, Stoddard Dayton, Elmore, Pathfinder, Lozier, Abbott Detroit and E-M-F? They still live in their parts and from time to time an owner appears on the scene for a gear or a pinion that will lure a few more miles out of the ruin.

Most of the passenger cars being scrapped now range between the 1918 and 1922 models, inclusive. Few cars older than 1918 bob up any more. Those from 1918 to 1920 are usually the higher-priced ones. Many low-priced cars of 1922 and occasionally some as young as 1923 are junked. It is true of almost every car, of not too ancient vintage, that it has considerable potential service left but the cost of rehabilitation is too high considering new car prices. The average automobile salesman may be smoother but the wrecking room foreman is a better authority on real worth and knows which makers have built real service into their cars and which have skimped.

Specifications Adopted for Concrete

Specifications for local aggregates for concrete, adopted Jan. 5, 1926 by the Engineers' Society of Western Pennsylvania stipulate that all coarse aggregate shall consist of natural gravel, crushed gravel, crushed stone or air-cooled blast furnace slag. Air-cooled blast furnace slag shall consist of tough, durable pieces, nonglassy in character. Dried slag, when tested according to the methods of the American Society for Testing Materials, serial designation C 29-21, shall weigh not less than 70 pounds per cubic foot. Coarse aggregates shall be divided into three classes, and when tested dry with Tyler standard sieves, the per cent retained on sieves shall be within the following limits, by weight:

SMALL

Suitable for reinforced concrete or concrete in thin walls or small volumes

On a ¾-inch sieve	0 to 5
On a ⅜-inch sieve	30 to 70
On a No. 4 sieve	95 to 100

MEDIUM

Suitable for mass or reinforced concrete

On a 1½-inch sieve	0 to 5
On a ¾-inch sieve	30 to 60
On a ⅜-inch sieve	85 to 100

LARGE

Suitable for mass concrete

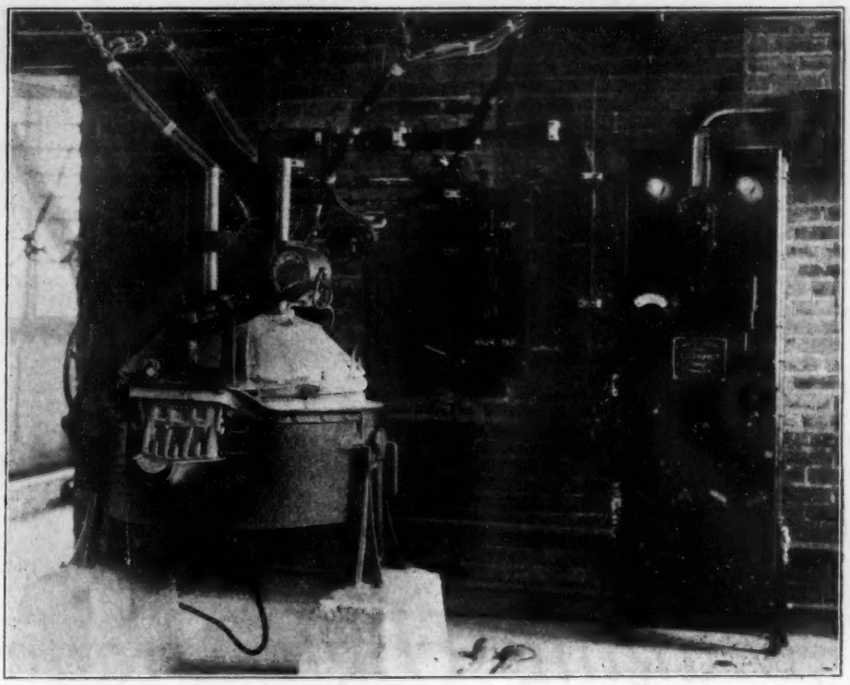
On a 2½-inch sieve	0 to 5
On a 1½-inch sieve	15 to 40
On a ¾-inch sieve	25 to 75
On a ⅜-inch sieve	85 to 100

Soundness of crushed stone and slag shall be determined by and meet the requirements of the method described in bulletin No. 1216, page 8, of the United States department of agriculture, as follows: "Immerse 10 small pieces (total weight about 1000 grams) of the rock in a saturated solution at 70 degrees Fahr. of sodium sulphate for 20 hours, after which place them for four hours in a drying oven maintained at 212 degrees Fahr. Repeat the treatment five times. Note the condition of the rock as to soundness at the end of the test. Samples which exhibit marked checking, cracking or disintegration shall be considered to have failed in this test."

Until some generally recognized requirements for abrasion losses of slag and gravel are available, the suitability of such materials shall be determined by the engineer.

The unfired pressure vessel code of the American Society of Mechanical Engineers recently has been adopted by British Columbia. This is the first of the Canadian provinces to put these rules into effect.

Builds Arc Furnaces In Small Sizes



A 125-POUND PER HOUR ELECTRIC FURNACE WITH AUTOMATIC REGULATOR

TECHNICAL schools, research laboratories and industrial plants frequently have use for small capacity electric furnaces. These units are employed in numerous metallurgical investigations and are of advantage in instructing students in electric methods of melting and refining. Some manufacturers use these furnaces for making small special analysis heats in regular production. To meet the increasing demands of such classes of service, the Pittsburgh Electric Furnace Corp., Pittsburgh, is building several types of small units.

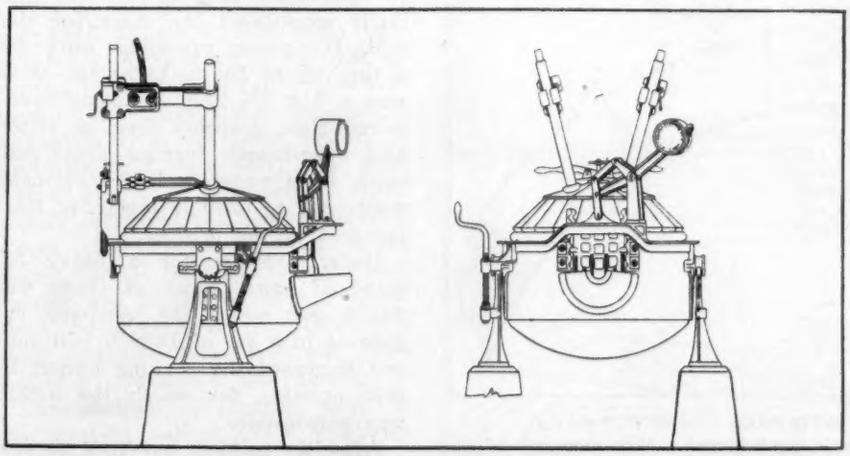
The largest of these units is the 250-pound per hour, three-phase, direct arc furnace. This type usually is operated at about 500-pound heats but can handle heats from 700 to 800 pounds without excessive overload. It duplicates on a smaller scale all of the features of larger furnaces manufactured by the company, including large, tight-closing, counterbalanced doors; mounting of the electrode motors and winches in the transformer room, large forward and backward tilt of the furnace, tilting gear placed above the floor level, etc.

The next size, which is shown above, is rated at 125 pounds of acid steel per hour and usually operates at about 250 pounds but will hold 300 pounds if necessary. The superstructure and roof refractories of this furnace are so arranged that the furnace is operated either on direct or indirect arc as desired. The indirect arc may be used for melting special metals, heating up the furnace preparatory to charging, and burning in the bottom. The roof and sidewalls are made up of silica brick and the bottom is put in either acid or basic as required. When the hand control is used instead of the automatic, the electrodes are moved by small micrometer cranks. On the automatic control type, winch motors regulate the arcs.

The furnace is designed with a heavy rolled steel plate shell stiffened around the top with a stout angle iron to prevent any change in form. The furnace is carried on two well braced, rolling steel trunnions, securely attached to the furnace shell. The furnace may be set at a convenient height from the floor by constructing the concrete piers, which support the pedestal casting, of necessary height. The roofing is made of heavy steel tubing arranged for water cooling to prolong the life of the roof refractories. The ring is made for use with skew back bricks, with rocker joints to allow for expansion. The arch bricks have suitable seats for the water cooled electrode glands. The electrode clamps also are water cooled. The 125-pound per hour furnace usually is operated on a 220-volt, single-phase, 60-cycle, alternating-current power supply. The standard equipment includes the electrode gear, arc striking mechanism, automatic electrode control, auto transformer reactor, switching, wiring, cables, transformers, etc.

The smallest type of furnace will hold 50 pounds of metal. The refractory lined ladle is mounted on trunnions at a convenient height on the floor stand, from which the heat may be poured by tilting the ladle forward. However, the ladle may be removed and shanked into prepared molds by inserting the shanks in trunnions and fastening with pins.

The electrode glands and clamps are designed so that the furnace may be operated either with a direct or indirect arc, and the roof, electrode gear and roof-ring may be tilted backward for charging, inspecting the melt and pouring. The clamps, glands and roof-ring are water cooled. The furnace usually is operated on 110-volt, 60-cycle, single-phase power.



FRONT AND SIDE ELEVATION SKETCHES OF SMALL SIZE ELECTRIC FURNACES

Making High Grade Steel-VII

Shearing Blanks for Cross Cut Saws from Cogged or Rolled Blanks—Clearance Obtained by Tilting Top Roll of Mill

By John . Coyle

CROSSCUT saws play an important role in the lumber industry. Without them the cost of felling trees and cutting them into log lengths would be considerably increased and the amount of lumber wasted would mount.

High-grade saws fulfill unusual requirements and withstand abuse rarely imposed on other fine steel products. The steel should be of such character that the teeth of the saws will hold their sharpness in hardwood and in frozen lumber. But while the cutting teeth must hold a sharp edge, the rake teeth must be tough and swageable. All teeth must take the proper set, the blades must be rolled and ground taper to clear in the cut and the saw must be tensioned to avoid buckling. The manufacture of a product to comply with these requirements involves skill and experience of a high order.

The oldest maker of crosscut saws in America prepared individual blanks for every saw by cutting and hammering. Another sawmaker cogged the ingots on a mill and then cut the rolled or cogged blanks to individual molders for each saw. As both of these manufacturers finished their saws on two-high mills, the top rolls being slightly tilted, such practice did not maintain accurate gage from end to end of the saw plate, as the entering and emerging ends of the plate were below the required gage.

The saw plates were No. 14 gage on the tooth edge and No. 16 gage, or as light as possible, on the back. Fig. 1 shows a rolled cogged blank, and Fig. 4 the layout of the blank for cutting into molders.

All of the sawmakers except one finished crosscut saws on two-high tilted top roll mills. One company, whose product was standard and which commanded the trade of purchased crosscut saws for years, used a four-stand, 20-inch, engine driven mill. One-pot crucible ingots, 4x4-inch, originally constituted the stock for this mill, 110 pieces providing work for a turn of 10 hours. Later the stock was a 5 x 3½-inch, 100-pound hammered slab, probably from a 15-ton acid open-hearth furnace melt. Still later, it is understood, the company went back to crucible ingots, at least for part of the product.

Under pressure for a heavy demand of saws, which at times was 20,000 per week, the company cut grooves in a set of 14-inch mill rolls and increased the cogging output by that practice, for which the author was responsible.

After the molders were cut, as previously mentioned, they were sheared

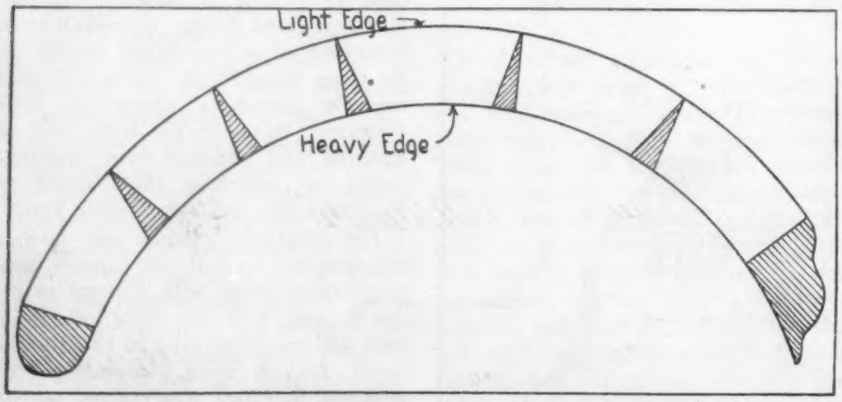
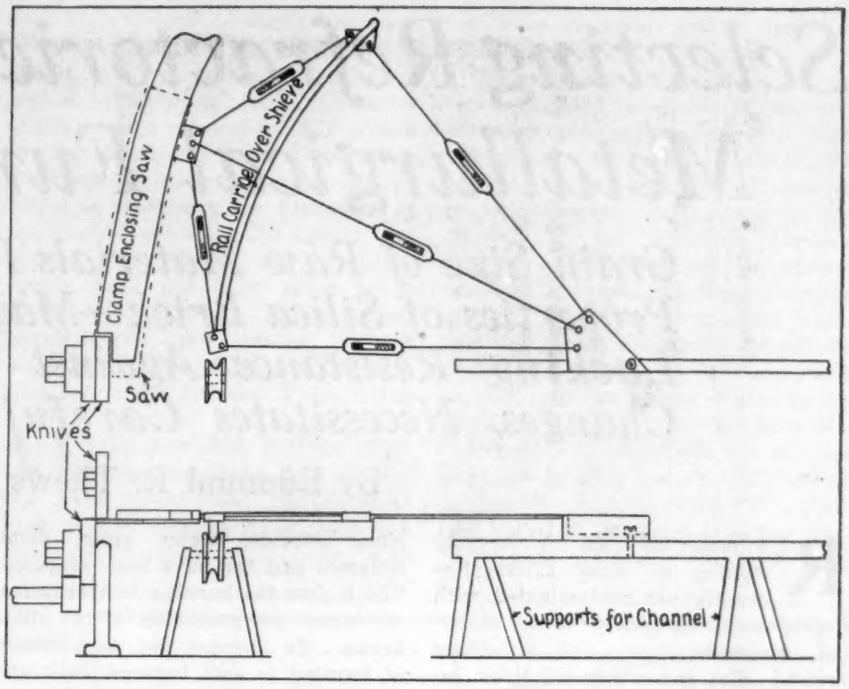


FIG.1—COGGED BLANK FOR TAPERED GAGE CROSS CUT SAWS
Unshaded portions represent blanks for single saws. Shaded sections show ends of scrap and typical sections. In finishing blank is reversed, light edge becoming heavy edge and vice versa

and charged into a furnace, pulled down on first chilled plain stand and finished to gage on a three-high middle tilted roll mill. They were held to the bite of the rolls by means of fixed guides to secure accurate radial gage. This distortive flow of metal was such that the saws were not flat on emerging. Therefore they were put back into an open fire for annealing to relieve strains, and then fed through slack chilled rolls for flattening.

In shearing from rolled blanks, as shown in Fig. 1, to the finished saw shape in Fig. 4, the saws were laid out to pattern by scribing the lines of the tooth and back edges and ends. Sometimes gate shearing of a straight back saw accelerated the task. Ends were hand trimmed. If either the tooth edge or back edge was a true radius, the saw blank was clamped in a rotary knife shear with radial attachment, as indicated in Fig. 3. Great care is a prime requisite in crosscut saw shearing, as edges must



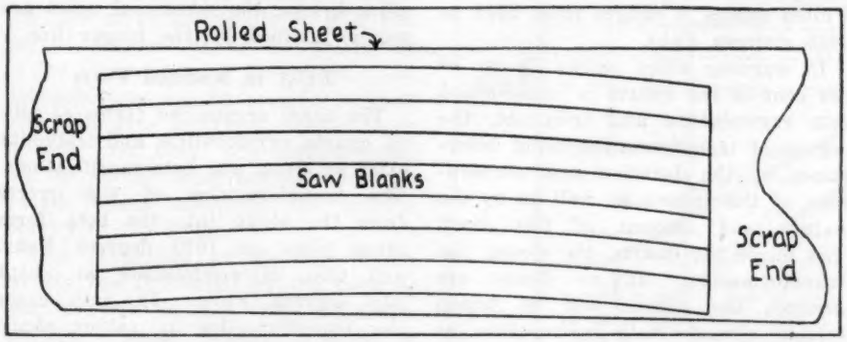


Fig. 2 (Left)— Saw blanks sheared from a rolled sheet. Note wastage at ends and sides

Fig. 3 (Above)—Radial shear for shearing blanks as shown in Fig. 4. This device was designed by Alexander W. Foster, master mechanic

Fig. 4 (Below)—Straight and curved back cross cut saws are sheared from rolled blanks as shown

be free from burr or flash, or else toothing and grinding troubles arise.

Prior to shearing, plates are gaged at six points on tooth edge and three points on back. Should the gage be irregular, the customer is given the count and weight of such saws or they are sheared into shorter saws or pulled down to lighter gages. All saws finally are put up into iron wire-bound bundles and stenciled for shipment.

And at this point it is pertinent to say that as about 8800 saws constituted a turn's work on the last described mill, during a full double turn week that number fixed the average normal cost. If a lesser number is made the cost rises; there is a point where a greater number of saws weekly increased the cost materially. About 12,000 saws per week fixed lowest normal cost, but between that number and 20,000 per week the cost rises. So a demand for 20,000 per week increased from 8800 per week makes a commercial mill hazard.

The analysis of crosscut saws of the straight carbon order generally

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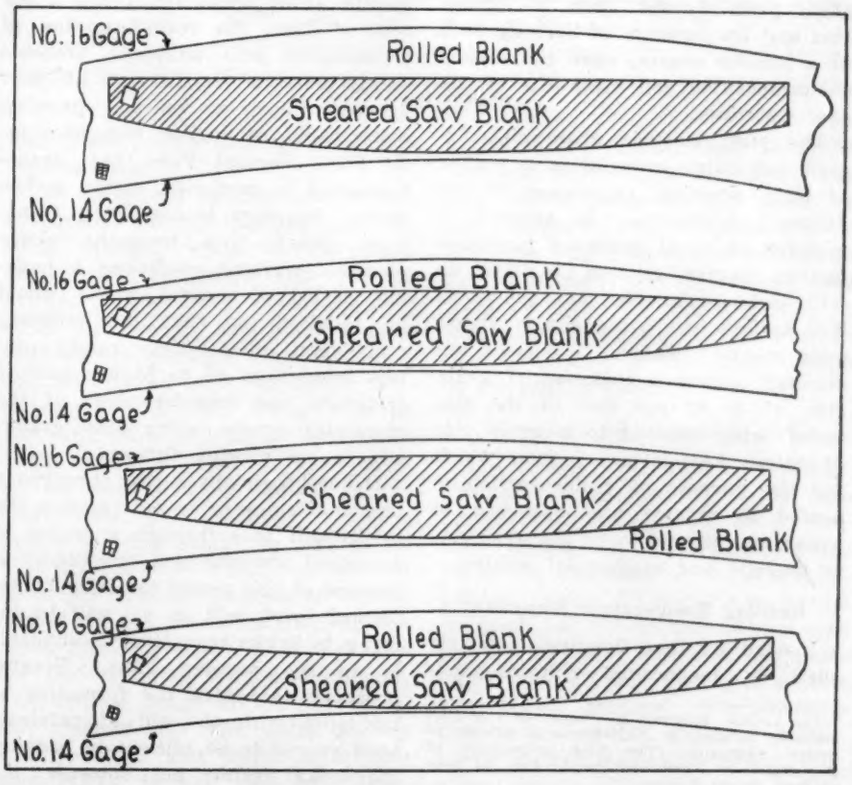


Selecting Refractories for Use in Metallurgical Furnaces-II

Grain Size of Raw Materials Influences the Properties of Silica Brick—Magnesite Brick, Lacking Resistance Against Temperature Changes, Necessitates Careful Treatment

By Edmund R. Thews

RAW materials used for the production of silica bricks frequently are contaminated with ferric oxide, manganese oxide, alumina, magnesia, lime, and sometimes water. The percentage of these ingredients contained in commercial silica bricks ranges from 90 to 95 per cent silica, 2 to 4 per cent alumina, 1 to 3 per cent ferric oxide and lime each and 0 to 0.5 per cent magnesia.

The impurities ordinarily do not influence the properties of silica bricks. Of deciding influence, however, is the kind and size of grains of the raw material, the percentage of the quartz fused in burning, and the structural changes incurred, that is, the degree of transformation of the quartz into crystoballite and tridymite. Fusion and transformation, on their part, depend upon the duration and temperature of burning and, to a smaller degree, upon the chemical composition and grain size of the raw materials.

The most suitable grain size for each particular material is a matter of long, practical experience of the different producers. In general, a mixture of equal parts of powdered quartz, quartz crushed to 0.04 to 0.12 inch grain size, and quartz to 0.12 to 0.28 inch grain size is giving good results. Modern tendencies are directed toward a reduction of grain size, 45 to 50 per cent of the material being reduced to a grain size of below 0.01 inch. Quartz, which for the purpose of desintegration is heated to redness and quenched in water, has proved to be less resistant to thermic and mechanical strains.

Burning Temperature Important

Instead of lime bonding materials such as magnesium chloride, calcium chloride, water glass, alum, molasses and tar have been proposed. The higher the burning temperatures, the better the properties of the silica bricks. In Europe the temperature of burning is kept between 2650 and 2750 degrees Fahr. while in the United States it ranges from 2775 to 2825 degrees Fahr.

In burning silica bricks 75 to 80 per cent of the quartz is transformed into crystoballite and tridymite, the degree of transformation being determined by the duration and temperature of the process as well as by the nature and amount of flux used. The purer the quartz, the slower the transformation. If no fluxes are present, the quartz will be transformed directly into cristoballite at 2280 degrees Fahr. With the commercial silica bricks containing 2 per cent of lime, the transformation of crystoballite into tridymite proceeds slowly until a temperature of 2450 degrees Fahr. is reached growing more rapid at higher temperatures. At 2750 degrees Fahr. the transformation is perfected within a few hours. In order to completely transform quartz into tridymite under practical working conditions a burning period of several weeks would be required, so that the ordinary commercial silica bricks rarely contain more than 65 to 75 per cent of tridymite, the transformation of the remaining quartz taking place gradually in the melting furnace.

It has been claimed that throughout this final stage of transformation the bricks will pass through a period of decreased strength and resistance; at the end of this period the fully transformed brick will in no way be inferior to bricks transformed completely in the burning kilns. Several processes to hasten the formation of tridymite with the aid of catalysts have proved to be efficient in burning the loose grains, not however, the pressed bricks. For this reason, some ceramical works have proceeded to transform the loose quartz sand into tridymite, to press it into bricks and to finish burning them. While the refractories thus produced are somewhat more expensive than ordinary silica bricks, the additional costs are amply justified by the longer life.

Exist in Modified Form

The three crystalline forms of silica, quartz, crystoballite, and tridymite exist as alpha and beta modifications. The transformation of the quartz from the alpha into the beta form takes place at 1070 degrees Fahr. and that of cristoballite at about 425 degrees Fahr. In both cases the transformation is rather sharp and is accompanied by a considerable increase in volume; bricks containing these two crystalline forms of silica therefore will tend to spall and chip whenever they are passed over these critical temperatures too quickly. The transformation of the alpha form of tridymite into the beta modification, on the other hand, will take place gradually and without too great a change in volume causing practically no chipping if present in sufficient quantities. The transformation temperatures and the amount of expansion is shown in the accompanying graph.

Silica bricks must be strong and ringing and the edges and corners must not crumble. The specific weight should not exceed 2.4 corresponding to a degree of transformation of about 70 to 80 per cent. Since the specific weight is decreased by porosity, a determination of specific weights will give only practical results if accompanied by the determination of the degree of porosity. The coefficient of porosity of commercial silica bricks fluctuates between 19.5 and 22.5; the different methods of determination, however, are not all

The author, Edmund R. Thews, is a mining engineer located at Karlshorst, a suburb of Berlin, Germany. The first installment of this article was presented in the Feb. 25 issue of IRON TRADE REVIEW.

uniform. Excessive porosity as a rule is caused by too rapid an increase in temperature above 2300 degrees Fahr. while burning.

Good quality silica bricks melt at 3100 degrees Fahr. differing little in this respect from first class fireclay bricks and bauxite bricks. The melting point of magnesite bricks is nearly 850 degrees Fahr. higher and of carborundum bricks almost 1000 degrees Fahr. higher than that of silica bricks. The metallurgical value of silica bricks is the comparatively high softening point under load which remains within 200 degrees Fahr. of the melting point. Fireclay bricks and bauxite bricks soften at 2450 degrees Fahr. while magnesite bricks crumble at 2600 to 2800 degrees Fahr.

Cone Test Unsuitable

The seger cone test generally used for the determination of the quality of refractories is hardly applicable to silica bricks, since outside of showing the softening points it does not permit conclusions to be drawn as to the other valuable properties. The determination of the specific weights also will give incorrect results since it does not take into consideration the degree of transformation of the quartz which influences the specific gravity of the bricks.

The properties of fireclay bricks largely are influenced by the impurities present in the raw materials. Melting points, porosity, softening temperatures under load, and the color of the bricks are modified in proportion to the nature and amount of impurities present. Feldspar and mica, for instance, being alkaline earth silicates with melting points lower than that of pure clay, will decrease the softening and melting points of the finished bricks.

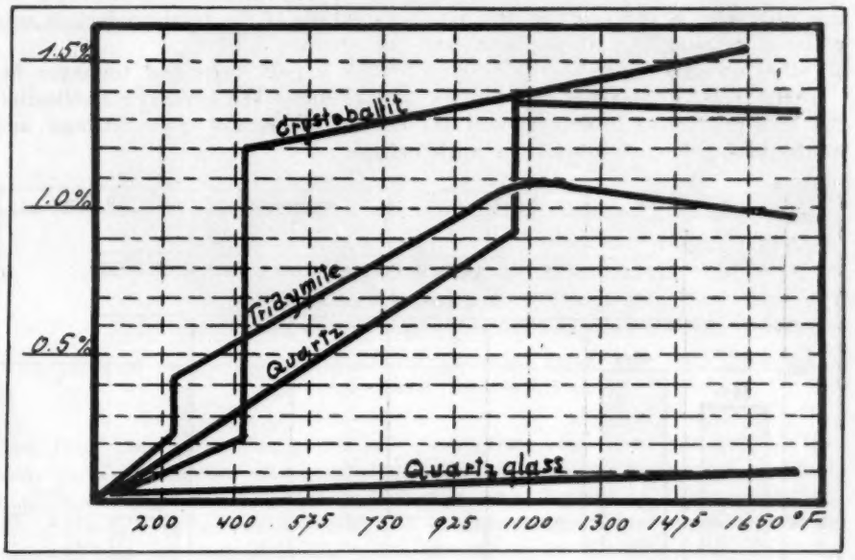
The mixtures used for the production of metallurgical fireclay bricks are composed of comparatively large amounts of burned lean clay, crushed to certain size, and of finely powered unburned, fat bonding clay. The lean materials which may be used, besides burned clay, silica, bauxite, corundum and graphite are added for the purpose of diminishing the contraction, for increasing the softening and melting points, and for improving the porosity.

Quartz sand particularly is effective in counteracting contraction. It possesses the disadvantage, however, of decreasing the melting point of the fireclay brick. In addition quartz sand decreases the resistance of the fireclay bricks against basic influences at high temperatures; for lead refining furnaces etc., or whenever basic oxides or fluxes are used, fireclay bricks must be as free from quartz sand as possible. Acid gases and substances as well as atmospheric oxygen do not readily attack fireclay bricks at any temperature. The presence of quartz sand will be useful in increasing the resistance of the fireclay against these agents. Reduction by carbon and reducing agents does not take place below 2500 degrees Fahr. while fused metals, free from oxides, do not touch fireclay bricks below a temperature of 2300 degrees Fahr. The melting point of good quality fireclay bricks fluctuates between 2700 and 3200 degrees Fahr, and softening point under load ranges from 2450 to 2700 degrees Fahr., although slight deformation may occur with high-grade bricks near 2400 to 2500 degrees Fahr.

The resistance against temperature changes of fireclay depends upon the silica content, upon the porosity, and upon the grain size of the bricks. While small percentages of silica increase the resistance against temperature changes, the resistance will be reduced with increasing silica contents, fireclay bricks with 68 per cent silica and 30 per cent clay being destroyed rapidly. This harmful influence of silica, that is, of the crystallized modification of silica present in the bricks, is due to its high coefficient of expansion as well as to the irregular changes of volume caused by the transformation of the alpha forms of crystallized silica into the corresponding beta modifications. The critical range of fireclay bricks lies between 400 and 1100 degrees Fahr. Above this temperature fireclay bricks as well as silica bricks are more resistant against temperature changes.

One of the most important factors influencing the resistance of the firebricks is the grain size. The finer the grain, the more sensitive the bricks will be toward rapid changes in temperature. Kirkpatrick in the *Journal of the American Ceramic Society* points out that of several qualities of fireclay bricks, composed of equal parts of fireclay and bonding clay, those containing grains up to 0.2 inch proved to be three times as resistant as others made up of grains of less than 0.04 inch diameter.

Refractory magnesite bricks are produced largely from crystalline raw magnesite, which is sintered in revolving cylinder furnaces and the carbonic acid removed. Sintered magnesite should contain from 82 to 86 per cent of manganese oxide. The iron oxide necessary for smelting the magnesite ranges from 4 to 7 per cent. If iron is not present in the raw materials, pure iron ores must be added in requisite amounts. All other impurities detrimental to the refractories of the bricks should be removed if possible.



TRANSFORMATION TEMPERATURES AND PERCENTAGE OF EXPANSION OF VARIOUS REFRACTORIES

Advantage of Magnesite Brick

The chemical inertness and refractoriness of magnesite bricks are higher than those of silica and fireclay bricks, the main disadvantage being the weakness of the magnesite bricks against rapid temperature changes. Of all the refractories used for metallurgical purposes, magnesite bricks are the least resistant against temperature changes. The comparative values of the different refractories include magnesite bricks, 100; silica bricks, 75; chromite bricks,

42; fireclay bricks, 3 to 20; zirconia bricks, 16; bauxite bricks, 13; and, carborundum bricks, 2.

To reduce the sensitiveness of magnesite bricks and to prevent excessive spalling, some ceramical works fuse the loose magnesite ore in a preliminary process, press the magnesite glass to bricks and then burn. While good results have been attained by this process, many difficulties have yet to be overcome.

This lack of resistance of magnesite bricks against temperature changes necessitates particularly careful treatment of all magnesite constructions down all furnace openings should be kept closed. Magnesite bottoms are best protected by a layer of ground coke. The electric conductivity of magnesite bricks is low while the thermic conductivity is comparatively high. The general resistance of magnesite to furnace conditions may be improved by storing the bricks in dry places and by laying in dry magnesite mortar.

Bricking of carborundum is accomplished by pressing the grains with a small percentage of bonding material containing either silica or clay, or with linseed oil or pitch, and burning at high temperatures. Carborundum bricks distinguish themselves by their desirable mechanical properties. While the melting point in strongly reducing atmospheres is as high as 4900 degrees Fahr., carborundum will be decomposed gradually by atmospheric oxygen at a temperature of 4000 degrees Fahr. The refractoriness of carborundum bricks and the stability at high temperatures and under load is highly satisfactory. Of importance to the foundry industry is the high resistance of carborundum bricks against rapid temperature changes. Its relative resistance and the conductivity of heat as well as of electricity is high.

Unfortunately the chemical inertness of carborundum bricks against the influence of slags, particularly those high in lime and iron, at high temperatures is low, as is also its resistancy against fused iron and numerous other metals. Carborundum should, therefore, not be used for the constructon of furnace bottoms and for the lower parts of the lining.

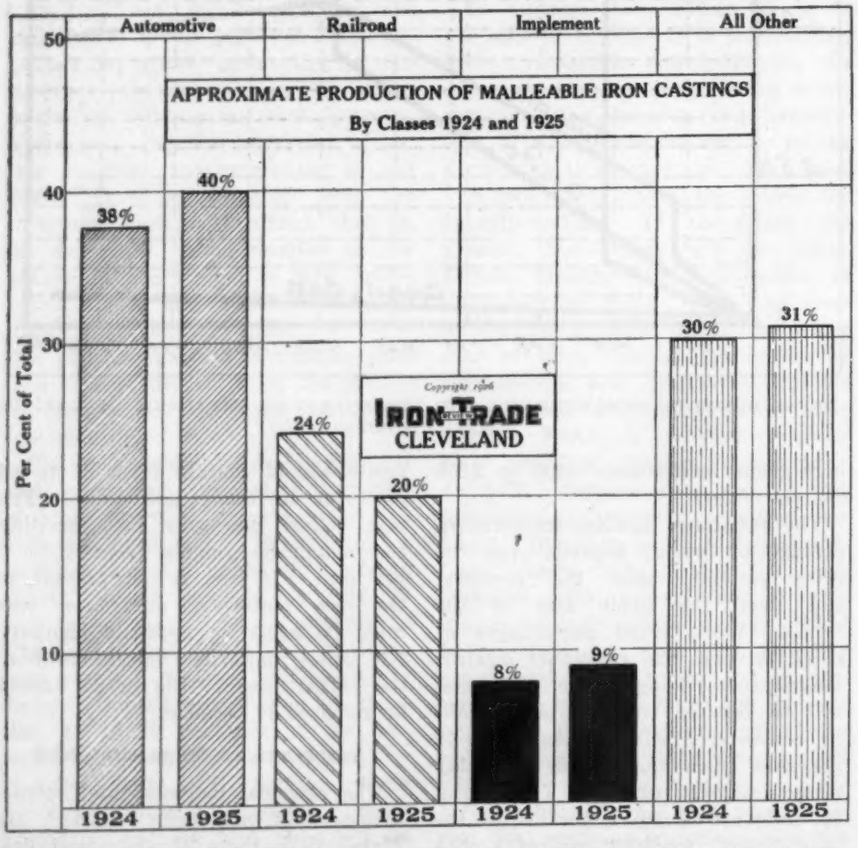
Bricks made from fused and ground fireclay and fresh clay mixed with a small percentage of bauxite for bonding, pressed and burned, have a melting point ranging from 3300 to 3500 degrees Fahr., while their softening point under load approximates 3100 degrees Fahr. Bricks of this material are not attacked by acid slags, atmospheric oxygen or fused metals, and are not affected readily by carbon and reducing gases.

Automotives Lead Malleable Castings Demand in 1925

AUTOMOTIVE manufactures in 1925 consumed 40 per cent of the malleable castings produced in the United States, according to data just issued by the American Malleable Castings association, Cleveland. This compared with 20 per cent used by the railroads, 9 per cent by the implement industry and 31 per cent for all other manufactures.

There was a marked increase in the 1925 production in tons as well as in the proportion of automotive work from 1924 to 1925. The largest change took place in the railroad field, where the percentage of production to the total dropped from 24 in 1924 to 20 in 1925. While the tonnage of implement malleable castings in 1925 was considerably larger than in 1924, the percentage of the total production was but slightly heavier.

The largest individual tonnages included under the general classification of all other, are pipe fittings and chain.



Making High Grade Steel

(*Concluded from Page* 637)

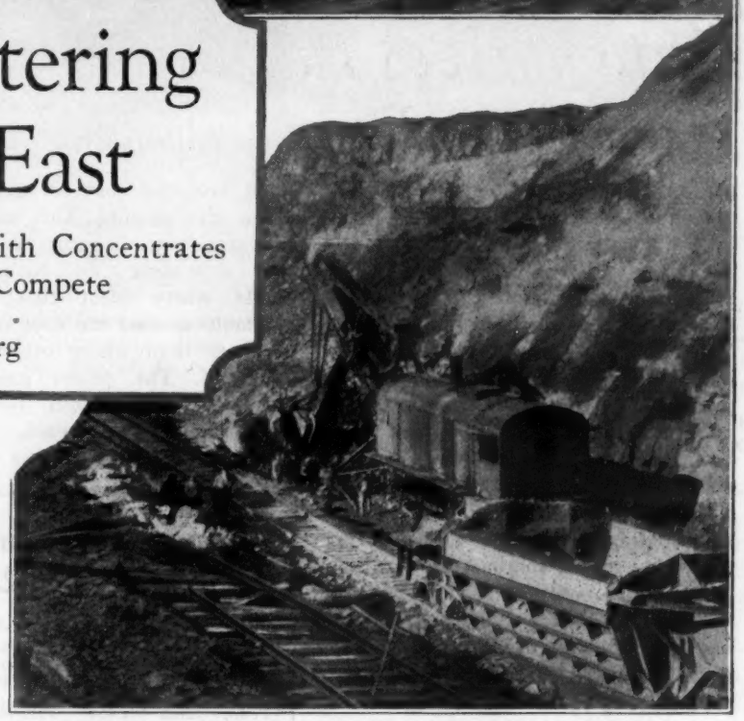
is from .90 to 1.00 carbon; .20 to .30 manganese (some makers require .30 to .40 per cent manganese); .10 to .20 silicon (again some makers require .10 to .25 per cent silicon); with commercial high grade steel maximums of phosphorous and sulphur, in decreasing amounts as the quality demanded is higher. The exception to this generally accepted rule is the carbon standard for Canadian makers, which is of slightly lower carbon than that of American practice.

Briefly touching on flat or even gage crosscuts, commonly known as wood saws or hollow backs, these are rolled in sheet form to an even nontapering gage on both tooth edge and back, and a number of saws are trimmed from each sheet to a single pattern, width or length as in Fig. 2.

Iron Ore Sintering Spreads in East

Furnaces Making High Records with Concentrates —Lake Prices Shaded To Compete

By E. C. Kreutzberg



ONE OF THE IMPORTANT SOURCES OF EASTERN IRON ORE, THE CORNWALL ORE MINE, NEAR LEBANON, PA.

A BROADER application of the sintering process is the most important development in the eastern iron ore industry in many years. Two or three years ago certain eastern furnaces modified their impression of sintering as strictly a blast furnace flue-dust reclamation process, and experimented in sintering iron ore. The results were such as to bring about an increasing application of the sintering process to iron ore. Developments during 1925 indicate that sintering of ore may be the general practice in the East in a comparatively short period.

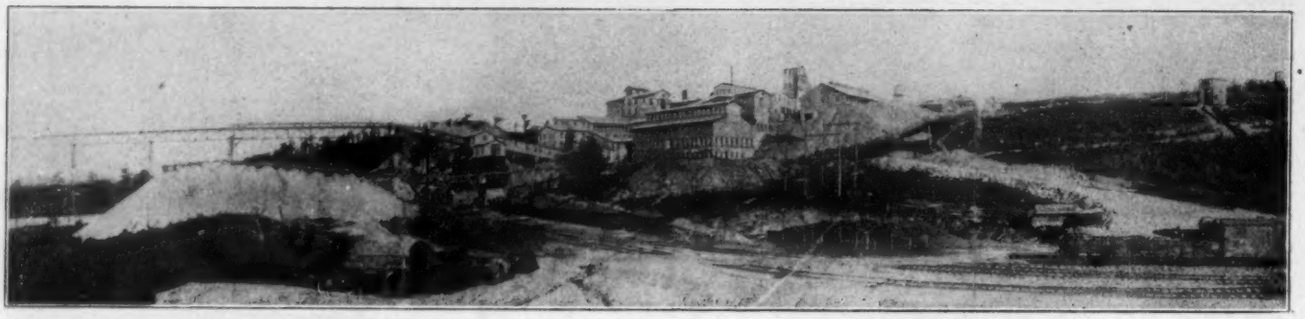
Results obtained by operating furnaces on sintered ore have proved remarkable. Observations at furnaces using sinter exclusively show that there is an average saving in coke consumption of at least 10 per cent. Likewise, there has been an average increase of at least 10 per cent in the tonnage of iron produced. In some instances much better results have been obtained than indicated by these figures. One furnace operating on sinter for a time reduced its coke consumption to less than 1700 pounds per ton of foundry pig iron.

In addition to the saving of fuel and the increase in pig iron production there are certain other advantages. Furnace operators find that with sinter the general performance of the furnace is smoother and more efficient, due to the open structure of the material. One stack that had an average of three tuyere replacements daily when it operated on ore finds that with sinter it has to replace not more than one or two tuyeres per month. Another advantage is the flexibility in regulating and changing the analysis of the iron, thus keeping production of off-iron to a minimum. One company using sinter exclusively is able without difficulty to go from standard foundry iron to standard malleable in one or two casts.

Sintering already has been applied to large tonnages of eastern magnetic ore, including ore from Port Henry, N. Y., Mt. Hope, N. J., and Cornwall, Pa. Large quantities of Spanish hematite were sintered in the East during 1925, and the conclusion reached was that the sintering process makes useful considerable foreign ore that previously had not been desirable owing to physical structure. Some American mining engineers and metallurgists have visited Spain in recent years at the request of the Spanish government, to study the availability of the ore for American practice.

Witherbee, Sherman & Co. and the Chateaugay Ore & Iron Co. are using sintered ore exclusively in their furnaces. The Chateaugay company now is installing a new sintering machine with larger capacity than the old. Bethlehem Steel Co., in a plant at Lebanon having capacity of over 2000 tons a day, is sintering all of the ore from its Cornwall mine. This sintered material is shipped to Steelton and Bethlehem. The Bethlehem company also has small sintering machines at Steelton and Sparrows Point but these are used exclusively for sintering flue dust. The company now has plans under contemplation for additional iron ore sintering equipment. The E. & G. Brooke Iron Co. sinters all of the ore from its French Creek mine, a primary purpose of sintering in this case being the removal of surplus sulphur. Reading Iron Co. is installing a sintering machine to sinter the magnetite from its Richard mine in New Jersey. Alan Wood Iron & Steel Co., besides buying sintered ore, is sintering large quantities of ore at its own plant and it has plans under contemplation for expanding its output of sintered tonnage. Robesonia has a sintering plant for sintering the ore from the Cornwall mine. Eastern Steel Co. has a sintering machine but the plant is idle and the company has no pig iron production under way at this time.

Eastern iron ore producers experienced a better demand for their product in 1925 than in the immediate past. For the first time in some years,



REPLOGLE MINE OF THE REPLOGLE STEEL CO., NEAR WHARTON, N. J.

the position of importers in the eastern market was less dominant. Certain furnaces, by reason of their locations, find it cheaper to rely upon foreign sources. But certain others whose business had been going abroad on a price basis, have been able to place an increasing proportion of their tonnage with the domestic mines.

In addition to booking much more tonnage, eastern mines were able to obtain somewhat higher prices for their ore in 1925. For concentrates they obtained 9 to 10½ cents per unit delivered at the eastern furnaces. The average probably was not far from 9 3/4 cents delivered. On the basis of standard ore containing 51.50 per cent iron, the above unit prices range from $4.64 to $5.41 per gross ton, delivered.

Prices in this article have been computed on the basis of 51.50 per cent metallic content to afford a comparison with the market on standard ore from the Lake Superior district. Shipments of eastern ore have averaged much higher than this figure. All of the eastern mines during 1925 shipped concentrates carrying no less than 59 per cent iron, and it is likely the average was nearer 61 per cent.

In establishing the price of sintered ore, the cost of sintering was taken into account. This may be said to vary from 75 cents to $1.25 per ton, depending on conditions. At plants where blast furnace gas is available as fuel the cost of sintering is lower than where other fuels are employed. The prices paid on sintered ore ranged from 10¼ to 11½ cents per unit delivered. The prices were higher later in the year than when the initial sinter business was transacted. The average was about 10 3/4 cents per unit, delivered at eastern furnaces. On a gross ton basis the prices paid were equivalent to $5.28 to $5.92 per gross ton delivered, on the basis of standard ore.

Output from Eastern Mines in 1925

(Gross tons)

	Mined	Shipped	Value
New Jersey	202,000	163,000	$ 730,000
New York	134,000	394,000	1,892,000
Ohio	2,000	2,000	1,460,000
Pennsylvania	964,000	923,000	
	1,302,000	1,482,000	$4,082,000

Lake producers again were factors in the eastern iron ore market, and, as in 1923 and 1924, sold a substantial tonnage. The open price on standard lake ore containing 51.50 per cent iron was $4.25 per gross ton at the lower lake ports, or $6.27 delivered at the eastern furnaces which take the $2.02 rate from the lower lake ports. This price would figure out to 12.175 cents per unit, delivered. The lake ore, however, brought a considerably lower price. No exact information has been divulged but it is the understanding in the trade that the open price was shaded about 80 cents. On this basis the price paid would have been around $5.47 per gross ton delivered, or close to 10.62 cents, delivered per unit.

Swedish ore sold during 1925 brought around 9½ cents per unit, f.o.b. cars at Philadelphia. This was equivalent to around $5.70 to $6 per ton of 51.50 per cent ore delivered at eastern furnaces. Not a great deal of Swedish ore was sold here in 1925.

Most of the foreign ore sold in the East during the year came from North Africa and Spain. Prices on this ore usually ranged from 8½ to 9½ cents per unit at tidewater. There were sales of inferior ores and of distress cargoes materially under these figures. On the basis of 51.50 per cent ore, the range of 8½ to 9½

Freight Rates on Iron Ore to Eastern Furnaces

IN CARLOADS, PER GROSS TON

TO / FROM	Philadelphia	New York	Lower Lake Ports	Port Henry	Mt. Hope, N. J.	Ringwood, N. J.	Beach Glen, N. J.	Wharton, N. J.	Cornwall, Pa.	Ft. Montgomery, N. Y.	Norfolk and Newport News
Chester	$0.80½	.....	$2.02	$2.22	$1.56	$1.61½	$1.51	$1.41	.....	$1.70	.....
Swedeland	.80½	.....	2.02	2.11½	1.41	1.61½	1.51	1.41	.....	1.70	.....
Pottstown	.90½	.....	2.02	2.11½	1.41	1.61½	1.51	1.41	.....	1.70	.....
Bordsboro	.90½	.....	2.02	2.11½	1.41	1.61½	1.41	1.31	.....	1.70	.....
Bethlehem	1.00	$1.00	2.02	2.11½	1.25	1.31	1.20	1.10	1.10	1.45	.....
Reading	1.11	.....	2.02	2.11½	1.41	1.61½	1.41	1.31	.....	1.70	.....
Hokendauqua	1.11	.....	2.02	2.11½	1.25	1.31	1.20	1.10	.....	1.45	.....
Catasauqua	1.11	.....	2.02	2.11½	1.25	1.31	1.20	1.10	.....	1.45	.....
Robesonia	1.21	.....	2.02	2.32	1.51	1.71½	1.51	1.41	.70½	1.80	.....
Wharton	1.41	.90½	2.02	2.11½	.80	.77½	.70½	*.50	.....	.....	.....
Lebanon	1.21	.....	2.02	2.32	1.66	1.81½	1.61	1.51	.80	2.01½	.....
Contesville	.90½	.....	2.02	2.22	1.56	1.61½	1.51	1.41	1.11	1.70	.....
Johnstown	1.86½	.....	1.38	2.52	.....	.....	.....	.....	.....	.....	.....
Riddlesburg	1.86½	.....	1.81-2.02	†2.42	2.38½	2.11½	2.22	2.11½	.....	2.11½	.....
Pittsburgh	2.01½	.....	1.23	2.52	.....	.....	.....	.....	.....	.....	.....
Sparrows Point	.....	.....	2.08	2.62	.....	.....	.....	.....	.....	.....	.....
‡Troy	.....	.....	1.37	.80	.....	.....	.....	.....	.....	.....	.....
Virginia Furnace	.....	.....	2.15	.....	.....	.....	.....	.....	.....	.....	.....
Steelton, Pa.	1.21	.....	2.02	2.32	1.76½	1.91½	1.71½	1.61½	.70½	2.01½	1.25

*From mines to furnaces at Wharton.
†$1.81 from Conneaut Harbor and $2.02 from Buffalo and Ashtabula.
‡Rates to Troy from other points are under advisement.

cents per unit would be equivalent to around $4.38 to $4.89 per gross ton at tidewater. Those plants located at waterside had only their unloading charges to add to this price. Those furnaces which had to pay a freight rate on the ore had average delivered prices ranging from $5.18 to $6 per gross ton, on the basis of standard ore. Distress sales in some instances were made at $1 to $2 under these delivered prices.

A development of interest in 1925 was the extent to which a number of foreign iron ore producers improved their facilities. Some of them spent large sums of money in improving their vessel loading equipment. This was particularly the case on the Mediterranean. One interest added equipment which enables it to ship sintered briquettes.

The Bethlehem Steel Co. which in times past had been an extensive buyer of foreign ore, relied on its own sources and was not a market factor during 1925. It obtained ore from Chile, the lake district, Cuba and from its Cornwall bank in Pennsylvania. Its purchases of ore were confined to manganese and manganiferous ores.

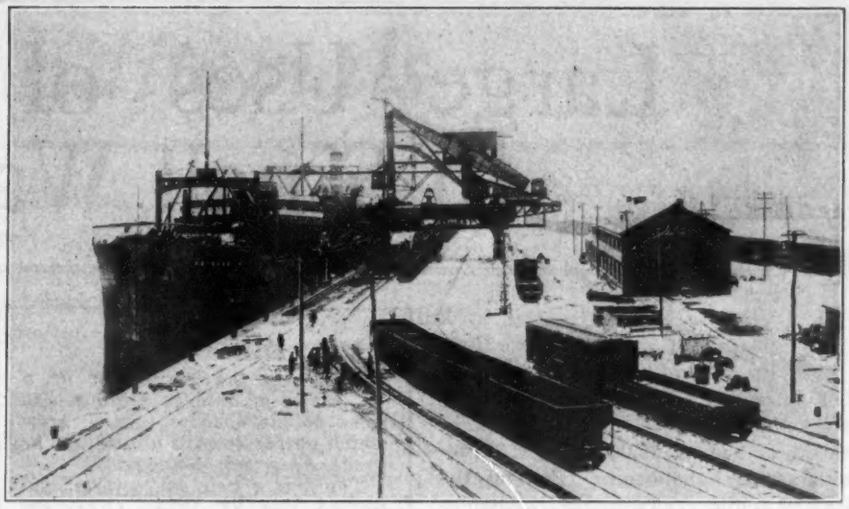
Lake Shipments to Eastern Users

	1923	1924
Philadelphia	470,000	100,000
Reading	7,000	30,000
Harrisburg	430,000	100,000
Bethlehem	500,000	100,000
Wharton	40,000	.....
Sparrows Point	50,000	.....

1925Figures not yet compiled.

It is of interest to note the recent channels of iron ore distribution in the East. The Hudson Valley Coke & Products Co. bought lake, Port Henry and Fort Montgomery ore for its furnace at Troy, N. Y. The Delaware River Steel Co. has been buying foreign ore exclusively, principally North African and Spanish, for its tidewater furnace at Chester. The Mystic Iron Works bought North African, Swedish and Wabana ore for its new tidewater furnace near Boston. The Reading Iron Co. bought Swedish and Port Henry and some lake ore, but took shipments principally from its Richard mine in New Jersey.

The Eastern Steel Co. bought New York, New Jersey and North African ore and used up some lake ore it had on its docks at Pottstown. Robesonia Iron Co. bought ore from the Richard mine and from Port Henry, but in the main used ore from the Cornwall bank. Colonial Iron Co., which at various times had been a buyer of foreign ore, bought only lake and Port Henry ore in 1925, for 1926 consumption. Replogle Steel Co., which depends mostly on its Mt. Hope and Replogle mines in New Jersey, bought some Port Henry ore. Alan Wood Iron & Steel Co. bought ore from lake, New Jersey and New York state producers, in addition to taking tonnage from Sweden, Spain and Northern Africa. E. & G. Brooke Iron Co. used mainly its own French Creek ore.



OPEN SHIPMENTS OF IRON ORE ARE NOT AFFECTED BY A "CLOSED SEASON," AS IN LAKE COMMERCE. HERE IS A CARGO OF CHILEAN ORE UNLOADING IN WINTER AT CLAREMONT TERMINAL, BAYONNE, N. J.

Production of Magnesite in 1925 Increased Slightly

Production of crude magnesite in the United States in 1925 was 120,660 short tons, valued at $1,432,700, the bureau of mines reports. Six operators at seven mines in four counties in California produced 64,600 tons of magnesite, valued at $872,100, all of whom reported only fair business due to foreign competition. All of the output in Washington was from the mines of one magnesite company, which operated only one of its six furnaces at Chewelah, Stevens county. The total output in 1925 was 560 tons more than in 1924.

From a tabulation of the best information available the total production of crude magnesite from California mines from the beginning of the industry in 1886 to 1925, inclusive, 40 years, has been 1,041,450 tons, valued at $10,146,640. Washington, since the beginning of magnesite mining in 1916, has produced 764,610 tons, valued at $5,111,850. The total production of crude magnesite produced in the United States from 1886 to 1925, inclusive, is 1,806,060 tons, valued at $15,258,490.

Reduction of Iron Oxide Undergoes Study

The object of a study of the rate of reduction of iron oxides being conducted by the bureau of mines is to obtain results of use in the design and operation of the blast furnace. Experiments during the past year show the important temperatures, rates of flow, sizes of particles and apparent densities of ore mass. The percentage of voids between the ore particles was found to affect the reaction rate. The degree of oxidation of the ore also has been found to be of great importance. The reduction rate has been followed from analyses of the gas flowing into and out of the heated ore beds, and by the composition of the ore after each test.

Conducts Experiments on Furnace Linings

A study of requirements for open-hearth furnace refractories is being continued by the bureau of mines. The purpose of the investigation is to determine the condition to which refractories are subjected in open-hearth furnaces. During the past year accurate determinations were made of the temperatures existing in various parts of a basic furnace. Temperature gradients through wall and roof bricks also were determined. A large number of dust samples were taken from the furnace gases in an attempt to determine their source and composition and the nature of their attack upon refractories.

Large Uses of Steel In Small Ways

ADVERTISING with steel is a phase of distribution little thought of by steel producers but it brings to their mills annually approximately 3000 to 4500 tons of sheets and about 12,000 tons of structural angles and beams. Five of the leading outdoor advertising companies in the United States erect about 4800 billboards per year or a large proportion of the total constructed.

Each billboard requires from a few pounds to 15 tons of structural steel and from 250 to 1500 pounds of sheet steel. Boards are constructed in sizes from 10 x 25 feet to 25 x 92 feet. The average board is 25 feet in length. Galvanized steel sheets of 26 gage, 30-inch width and 120 to 132-inch length are used for the face of the billboards. Sheets must be flat billboard stock to lay flat on the frames without curling. These are braced either on wooden or metal supports. In zones where fire restrictions require metal or on installations involving stronger than ordinary construction 2 x 2¼ or 2½ x 2½-inch angles are used in conjunction with I-beams. The beams generally used are 10-inch, 35 pounds to the foot.

Sheets are nailed to wooden frames with a lap longitudinally to fit over the next strip in assembling. These frames with the steel covering are called panels. The fronts of the panels are washed with a vinegar so that paint will adhere to the galvanized surface. The backs are painted a green protective coat. Where the board will be used for painting, the fronts of the panels are painted white or cream color as a base or filler coat for further decoration. Poster boards are erected without painted fronts.

Panels then are fastened either to wooden or to metal frames. Wooden frames are used where construction permits. Where wind or weight enter, steel frames are built. Signs constructed on buildings which will not bear the additional weight are erected on a heavy I-beam. Panels are interchangeable on wooden frames. This allows them to be removed from the frame, taken into the shop and re-painted and re-erected. When fastened to steel frames the panels cannot be removed easily. They are fastened to the angle iron braces by panel clips which consist of steel bands 1-inch in width and cut to about six inches in length. These are bent so as to hook over the angles at one end and punched to be fastened to the frames on the other.

Individual building conditions govern the erection of every board and blue prints are prepared for each job as it is produced. The framework on light billboards is made of angles, both vertically and horizontally. Where heavier boards are being constructed or where strains make necessary, the uprights or vertical braces are of I-beams while the transverse pieces are angles. Bracing is used as necessary, some projects requiring angles closer together than others.

New billboards erected in the United States during 1925 had an approximate erection cost of $500,000.

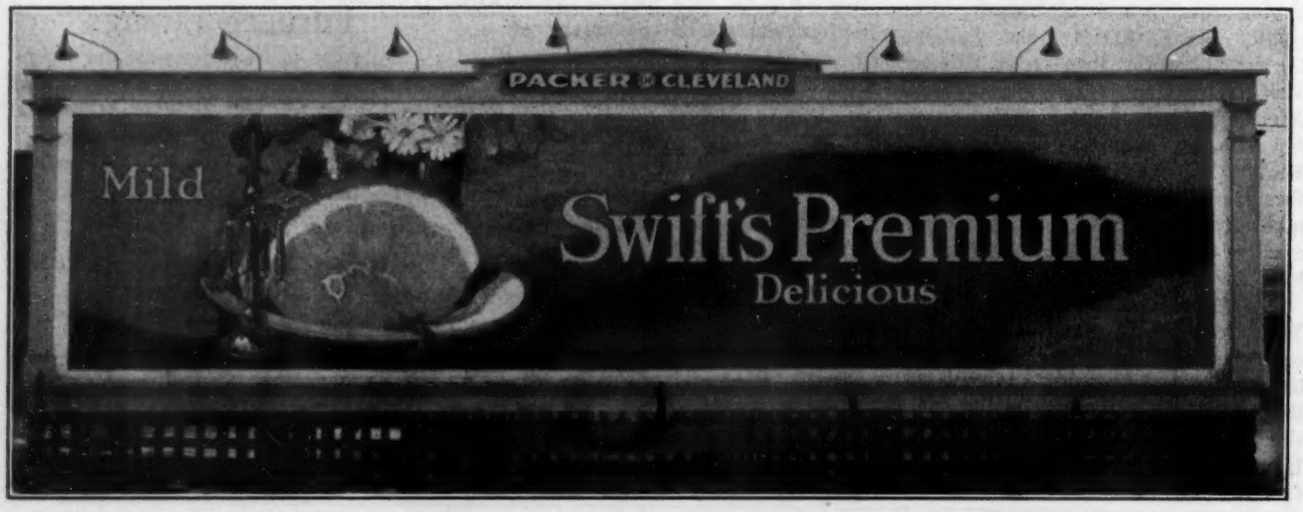
Approximately 100 tons of ¾ and 1 and 1¼-inch conduit is used for the lighting of the billboards and from 300,000 to 400,000 feet of number 14 rubber covered wire.

Billboards

THIS is the fifty-ninth of a series of articles dealing with some of the obscure uses of steel which go far toward absorbing the great American tonnage.

The first article on "corsets" appeared Nov. 22, 1923. Other articles appearing fortnightly since are:

Pins	*Razor Blades*
Cotton Ties	*Pens*
Toys	*Steel Wool*
Spinning Rings	*License Plates*
Card Clothing	*Hypodermic Needles*
Tie Plate	*Shoe Steel*
Tacks	*Crushed Steel*
Knives and Forks	*Skates*
Surgical Instruments	*Needles*
Fence Posts	*Phonograph Needles*
Eyeglass Cases	*Golf Clubs*
Fishing Tackle	*Mechanical Pencils*
Dental Drills	*Burial Caskets*
Pocket Knives	*Telephones*
Rat Guards	*Radio Towers*
Snap Fasteners	*Brushes*
Paper Clips	*Electric Bells*
Steel Vests	*Bookbinder Wire*
Electrical Conduit	*Sucker Rods*
Radiator Furniture	*Watch Hands*
Notebooks	*Steel Furniture*
Metal Beds	*Highway Markers*
Bolts and Nuts	*Camp Cots*
Metal Lath	*Flexible Shaft*
Tin Cans	*Wood Pipe*
Umbrellas	*Buttons*
Steel Barrels	*Sheet Metal Screws*
Washers	*Rivets*
Overall Trimmings	



Editorials

Consumer Has the Advantage

A LARGE producer of wire and nails whose works operations are now averaging a scant 60 per cent finds that its clerical force has never been larger, due principally to hand-to-mouth buying on the part of consumers. Typical of the situation is a middle western jobber formerly stocking five to six thousand kegs of nails at one time but now taking in thousand keg lots. On the same aggregate volume there has been an increase of practically 600 per cent in office routine and bookkeeping at this warehouse.

Certainly most of the apparent economies in short buying are on the side of the consumer. With mill capacity adequate and transportation good he can keep inventories to a minimum. His savings more than neutralize the additional expense of more frequent buying. He is taking advantage of a situation that has opened up in the natural course of postwar events and it is certain he would be more than human not to do so.

In some lines producers can back up their supplies of raw materials in keeping with this tendency by consumers, but the makers of basic products reach their safe limits quicker. Their overhead and clerical expense permit of no diminution in times like these. Oversupply of capacity, which short buying accentuates, results inevitably in its contraction, and the vantage point then passes from the buyer to the producer. There is a force or economic law which over a period of years adjusts the balance but at present the situation favors the consumer.

Weigh Value of Metal Speculation

SPECULATION has come in for much attention in the nonferrous metal markets lately. Commodities such as metals, produced in standard forms which enter readily into trade in all parts of the world, lend themselves readily to speculation. This activity sometimes is thought of as being almost synonymous with manipulation, and is charged by many business men with being a tax added to the cost of the metal to the user.

On the other hand it is argued a speculative market affords opportunity both to the user and the producer to hedge, as is done by flour and cotton mills. Thus the speculative risk on a contract between a producer and a consumer is minimized. The man who argues on this side says the parties to the contract are protected then against price changes that are bound to come but cannot be predicted.

It is also contended that speculation affords a means of financing the market, and in this connection the producers of metals sell little except for cash. Small users often go to dealers, many of whom are classed by producers with speculators, to get credit, especially abroad. In this country the trade with dealers is watched closely by most producers, with the idea that some dealers are in business more for speculative profits than for the return from distribution among users. Producers of copper are trying more than ever to do all business without middle men, except in very small lots, and to a certain extent this is true in zinc also. The formation of export associations has a bearing on this policy. In tin and tungsten ore there is much speculation without restraint.

Employes' Stock Value Unaffected

FEVERISH times like the past 10 days in Wall street direct attention to what constitutes real value in industry. Stocks may rise and fall in sympathy with the trend of the market but intrinsic values are not affected. Book value is a matter wholly unconscious of Wall street. Dividend rates are usually cause and not effect, and are touched by Wall street's gyrations only when the latter are sufficiently violent to unsettle business in general.

In recent years the stock market's standing as a barometer of business has been steadily diminishing. Business no longer is inclined to follow Wall Street on speculative sprees. One reason for this is the average business man has a better grasp on fundamental economics. Consequently when the inevitable "morning after" comes for stocks, business is found with a clear head and its feet on the ground. Recently Wall Street has been undoing an unhealthy speculative situation but that does not necessarily reflect upon the soundness of business.

To the executives of some of the larger corporations whose securities are listed on the exchange the chief concern at present is with employe stock purchases. The declines in open market quotations may well prove disturbing when there is no appreciation of the real situation. There may

be need for explanation that the liquidation of speculation has not worked injury to employes' holding, but rather may actually prove a corrective measure.

Underlying conditions appear sound, physical values have been unscathed, and the collapse has been in the stock market, in the mental state of speculators and traders and not in business itself or in the industries evidenced by certificates. The element which is continually seeking to implant suspicion in workers' minds ought not be given opportunity to capitalize the stock market disturbance. Many employes may be undergoing their first experience of owning or buying stock which has shrunk on the ticker, and a simple lesson in finance might prove reassuring.

New Steel Use Gaining Strength

SHIPMENTS of steel furniture in January valued at $2,434,205 call attention to this enterprising young industry, which has shown steady growth in its comparatively few years existence. Activity in the business group of the steel furniture industry set a new record in January for value of orders received, shipments and unfilled orders at the close of the month. Shipments of steel furniture have increased consistently since early 1922 when the department of commerce started compiling these data.

Success of steel products manufacturers in developing and marketing this new use for steel should lend encouragement to the iron and steel industry. Gradual replacement of wood and other materials by steel should offer unlimited opportunities for expanding this industry.

Urge Action on Differentials

THOSE who attended the meeting of iron and steel jobbers in Boston a year ago and again last month, undoubtedly were impressed with the radical change in sentiment on the question of mill differentials covering small tonnage orders of steel bars. A year ago representatives of small warehouses declared that such differentials, if put into effect, would force them out of business. Now, after considering the question for a year, they are ardent advocates of the plan, seeing in it a means of materially increasing their business.

The scheme of adopting differentials for mill shipment of small tonnages has been under discussion for many years. Three years ago several eastern mills tried it out, but without much success. Last summer mill representatives were present at a meeting of jobbers in Detroit, and speakers from both sides urged the adoption of small tonnage differentials. At the recent meeting at Boston, the sentiment of jobbers and producers was in favor of differentials.

A suggested plan is to charge a premium of 25 cents a ton on orders ranging between 2 and 3 tons of a size; a premium of 50 cents between 1 and 2 tons of a size; and a premium of 75 cents to $1.00 on all orders under 1 ton of a size. It is argued that these differentials will give the warehouse the trade logically belonging to the distributor, and at the same time increase efficiency of mill operation by eliminating small business which cannot be profitably handled.

Apparently everyone favors some such plan, and yet no one desires to take the initiative. It may be that some outside body will have to take a hand to put across this plan.

What Our Readers Are Thinking

Price Cutting an Economic Crime

To the Editor:

IN ANSWER to the query "How is Business?" the reply almost invariably is, "Well, Business is not so bad, but prices are rotten!" This seems to be true, not only of steel, but also in many other lines.

If there is a fair volume of business, why are we not getting fair returns? Whose fault, if fault there is, and why? Is the public, the government, transportation, labor conditions, or ourselves to blame? How long will our stockholders be satisfied with small or no dividends?

Many firms have doubled their sales forces and are making frantic efforts to cover more territory, and drag in more and more unprofitable business. The producing capacity of the steel industry like many others was overdeveloped during and following the war.

Every industry has its cycle of "ups" and "downs" due to business conditions which at times develop overcapacity and with it overproduction. In a growing country like ours, time is the great healer and remedy. It holds the excess capacity until the demand catches up.

If a firm is strong enough to weather the storm, all well and good, but unfortunately many must go down.

We are undoubtedly going through such a period as this just now. Would it not be better for all to trim their sales to suit the breeze until the tide turns? We believe that if our attention would be turned to working out greater systems of economy of operation and confining our operations to territory where we can work to the best advantage, even at reduced output, instead of trying to secure additional business from unprofitable territory, we would all improve our conditions.

This is especially true in the fabricating steel business. In any case, why not sober up and stop the throat cutting? It is at least a moral crime to take work below cost. We need to start an educational campaign and keep on pounding until it dawns on everybody that business at any cost is poor business.

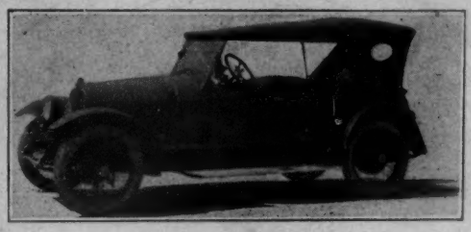
J. A. McEWEN,
Chief Engineer,
Pittsburgh Bridge & Iron Works,
Pittsburgh, March 4.

The Reader's Page

Vol. LXXVII, No. 10 IRON TRADE REVIEW March 11, 1926

Turning Discarded Cars Into Scrap

MANY of the four million new automobiles built every year are bought to replace used cars. What happens to these abandoned or discarded machines? Some find watery graves in quarries; hundreds are left as roadside ruins; others are driven to isolated spots and abandoned to the mercy of the weather; and still others adorn backyards of garages where they furnish a supply of spare parts as needed. But of the hundreds of thousands not accounted for in this manner, the majority find their way to the scrap heap. In the hands of professional wreckers they yield heavy melting steel, busheling and other grades of scrap, as well as an imposing array of accessories, such as bolts, nuts, lamps, brackets, etc. Turn to page 631 and read Mr. Barringer's absorbing article on present day methods of scrapping motor cars.



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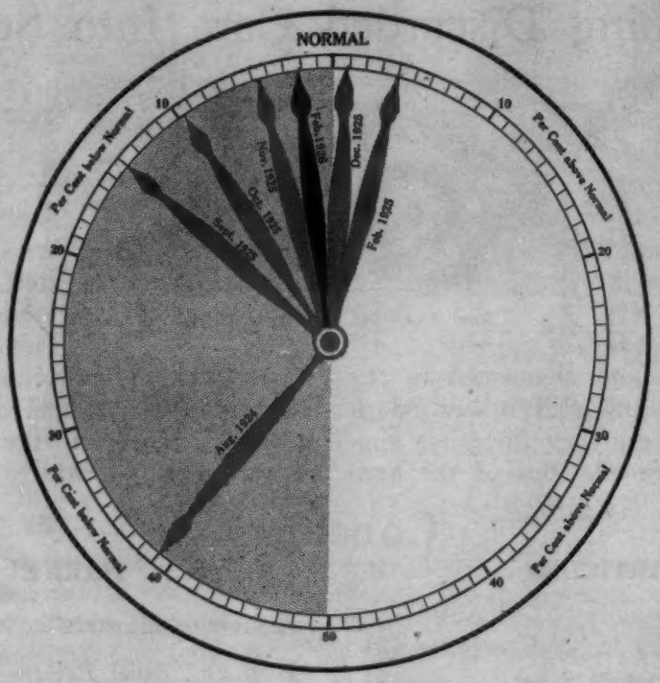
The Business Trend

Blast Furnace

The Dial represents the Blast Furnace Index of Business which is based upon a 40-year record of furnace activity. It is a barometer of general trade.



Business Dial

When 60 per cent of all the country's furnaces are in blast business conditions are normal. The Index is now lower than the normal point on the dial.

Soundness Still Underlies Business

By JOHN W. HILL, Financial Editor

FINANCIAL sentiment and business confidence have been reassured following the recent drastic market upset. Sober inventory of realities discovers nothing in the outlook to justify fears of a sharp recession in trade similar to that of securities.

THE major break in share values followed a historic bull advance. It came from certain real and imagined reasons. The real causes of the decline were the ridiculously overdone speculation, the inflation of values far beyond real worth or prospects, and the recognition by financial authorities that a disproportionate amount of the nation's credit was flowing into speculation.

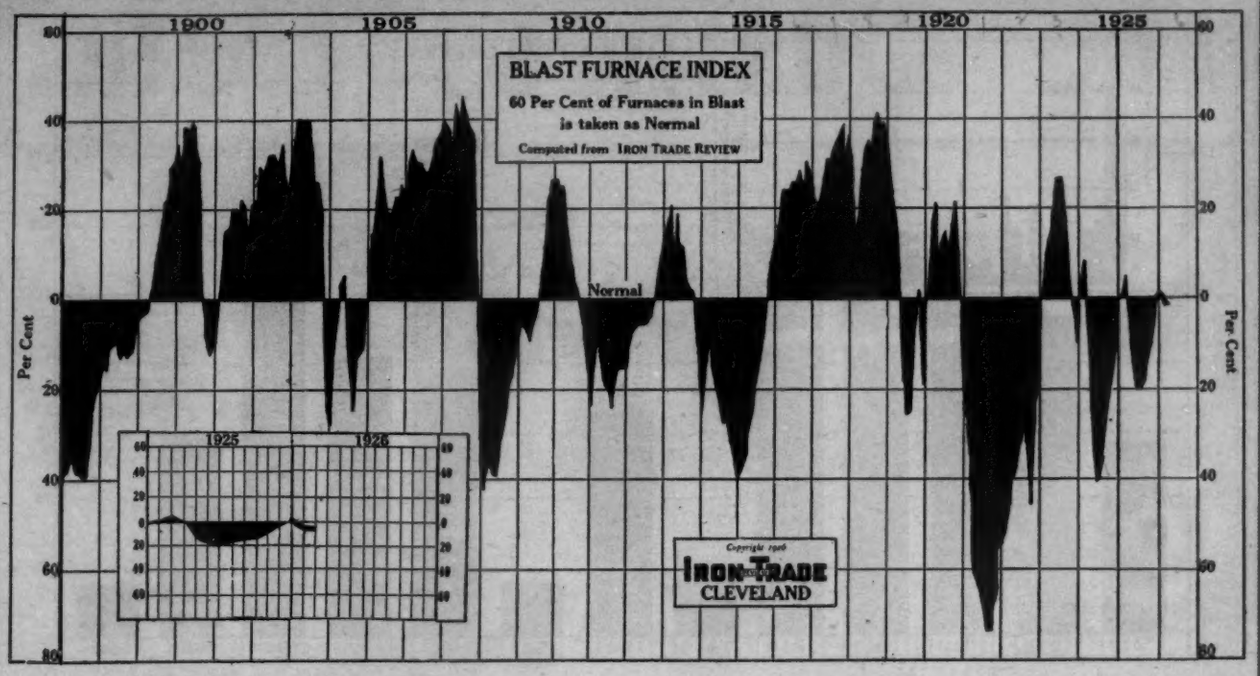
THE fancied cause or excuse for the collapse was the interstate commerce commission's disapproval of the financial phases of the Van Sweringen rail merger. Calm study of the decision does not reveal it as a calamity. Actually it approves the physical part of the merger.

BUSINESS confidence as always happens at such times was shaken, momentarily at least, by the landslide of values on Wall street. However, realization of the soundness of fundamental conditions is widespread. Industry has not indulged in a spree of inflation. Prices in fact, have been declining. Cautious buying has averted an unhealthy accumulation of goods. Of supreme, importance, credit is cheap and in ample supply.

MEANWHILE signs of approaching spring improvement of trade are multiplying. Building and automobile industries are increasing activities. The iron and steel situation is better. A lull in the summer seems probable, similar to what has happened in three preceding years. But the elements for a drastic and prolonged trade depression are not present.

WITH the hard coal strike settled and coke prices subdued, blast furnace operations once more are subject to normal conditions. In February there was a slight decline in furnace operations but since the beginning of March a number of furnaces have resumed activities. The blast furnace dial, nearly at normal, reflects good business conditions. By reaching normal in January it accurately forecasts the stock market decline according to the theory of Col. L. P. Ayres.

The Business Trend

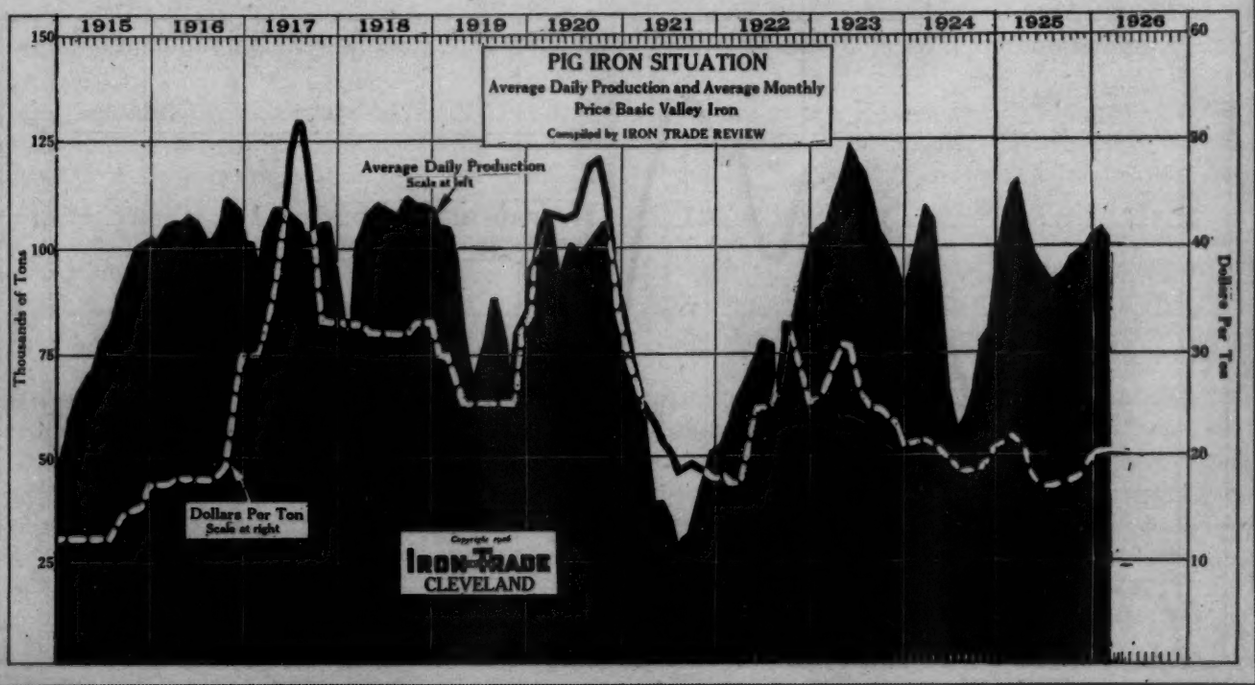


Blast Furnace Index

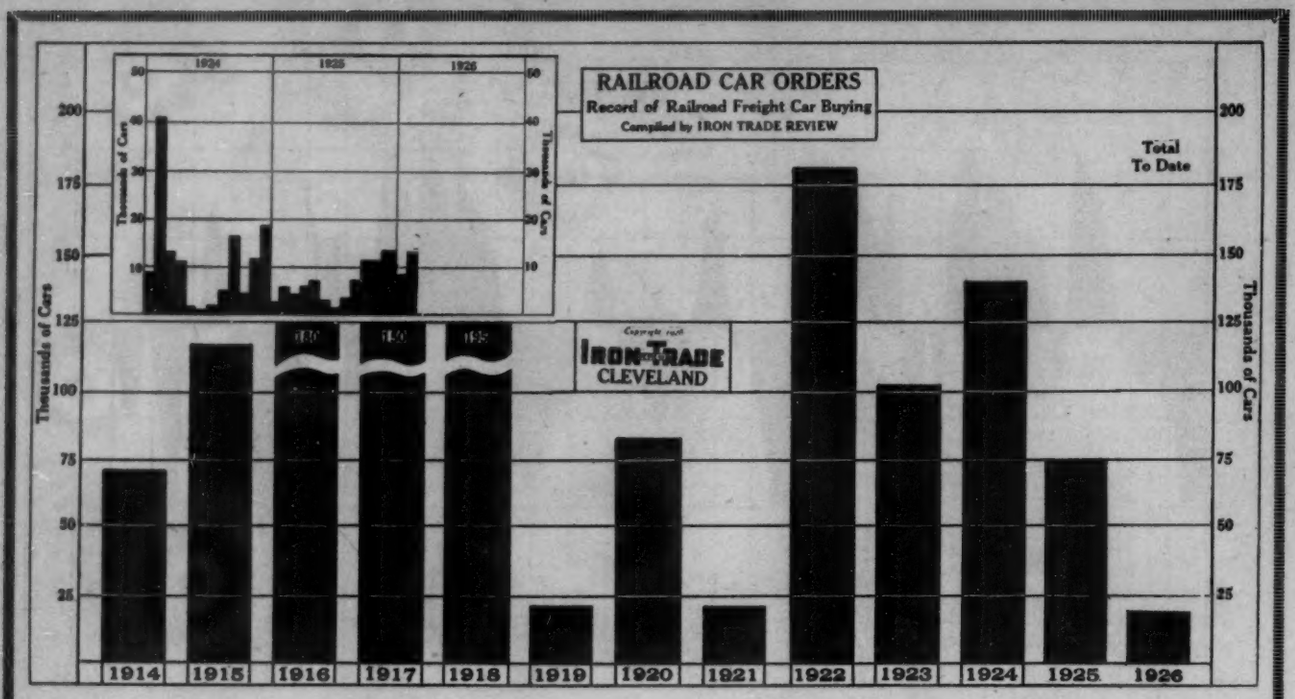
PARTIALLY because of the continuing effect of erratic coke prices during much of February, blast furnace activity declined during the month. At the close of February 223 furnaces were active against 225 one month before. This was 58.5 per cent of the 383 available furnaces, the same ratio as at the close of January when there were 385 furnaces. The blast furnace line is now 2.5 per cent below normal. With the removal of artificial coke price conditions furnace activity is now increasing, reflecting the gradual quickening of general trade.

Pig Iron Situation

THE daily average rate of pig iron production in February was 104,337 tons. This compared with 107,089 tons in January and with 114,788 tons in February, 1925. Fluctuating coke prices due to the coal strike caused the banking of furnaces in January and February and the loss in pig iron output. Normal condition within the pig iron market itself are now in control of the situation. Although the market has been dull, demand is sufficient to cause outputs to rise since the first of March. Prices are fairly steady.



The Business Trend

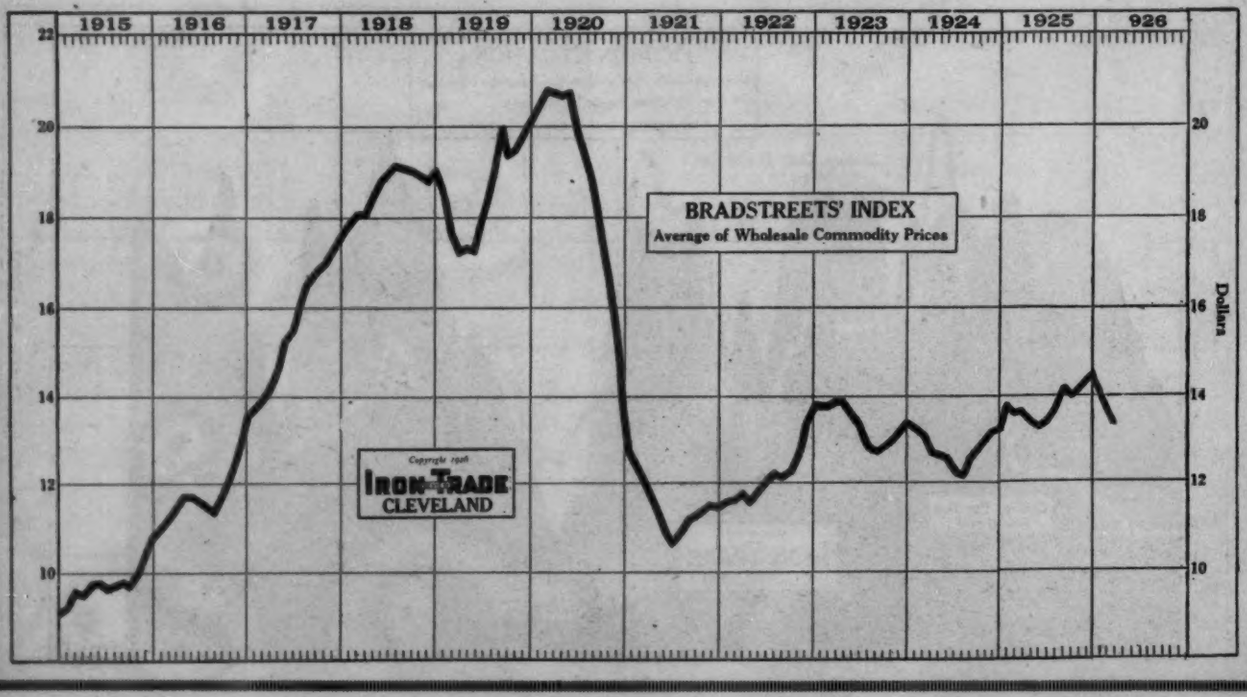


Car Orders

ORDERS for freight cars by the railroads since the beginning of the year have shown a large increase compared with one year ago. They are lower, however, than they were during the first two months of 1924. In January orders were placed for 8830 cars and in February this was increased to 12,895 cars. Total orders for the two months amounted to 21,725 cars. These figures compare with 5510 cars in February 1925 and with aggregate awards for 6021 freight cars during the first two months of that year.

Bradstreet's Prices

WHOLESALE price movements in February continued the steady downward trend begun in the closing weeks of 1925. Bradstreet's index on March 1, showed a decline of 2⅛ per cent during the preceding month. The number is over 3 per cent lower than it was one year ago, and at the lowest point since May, 1925. Of 13 groups of commodities included in the index nine were lower in February and only four showed increases. Bradstreet's index is now 44.5 per cent over the 1913 average level of wholesale commodity prices.



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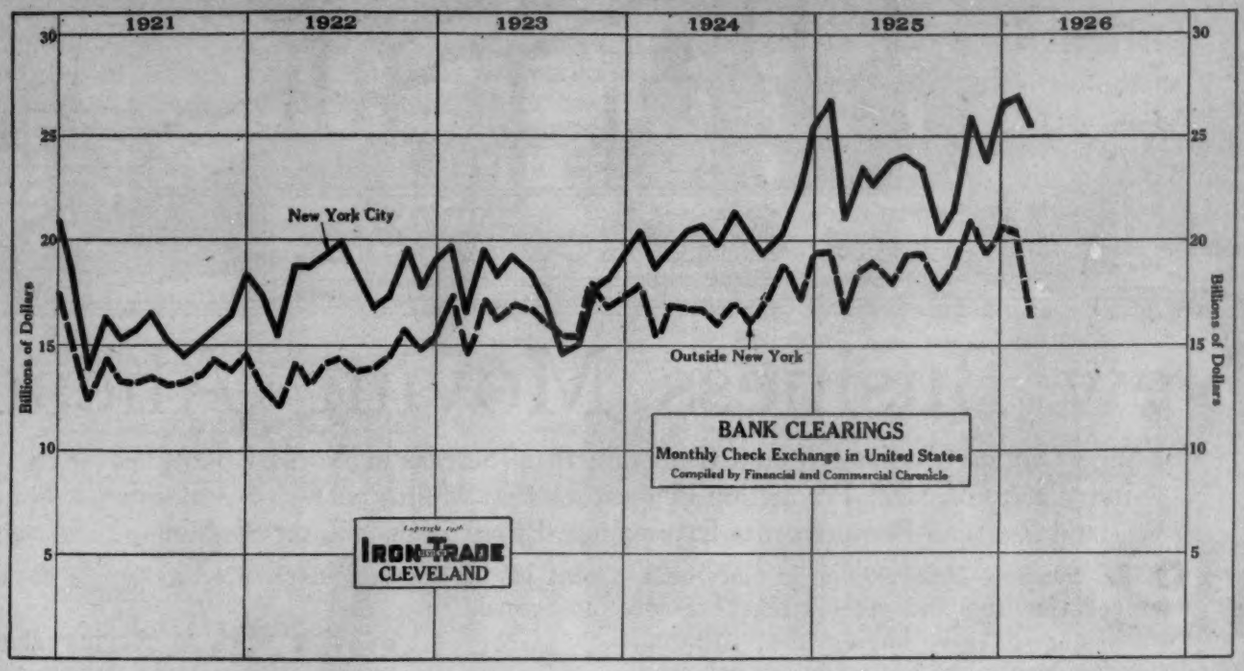
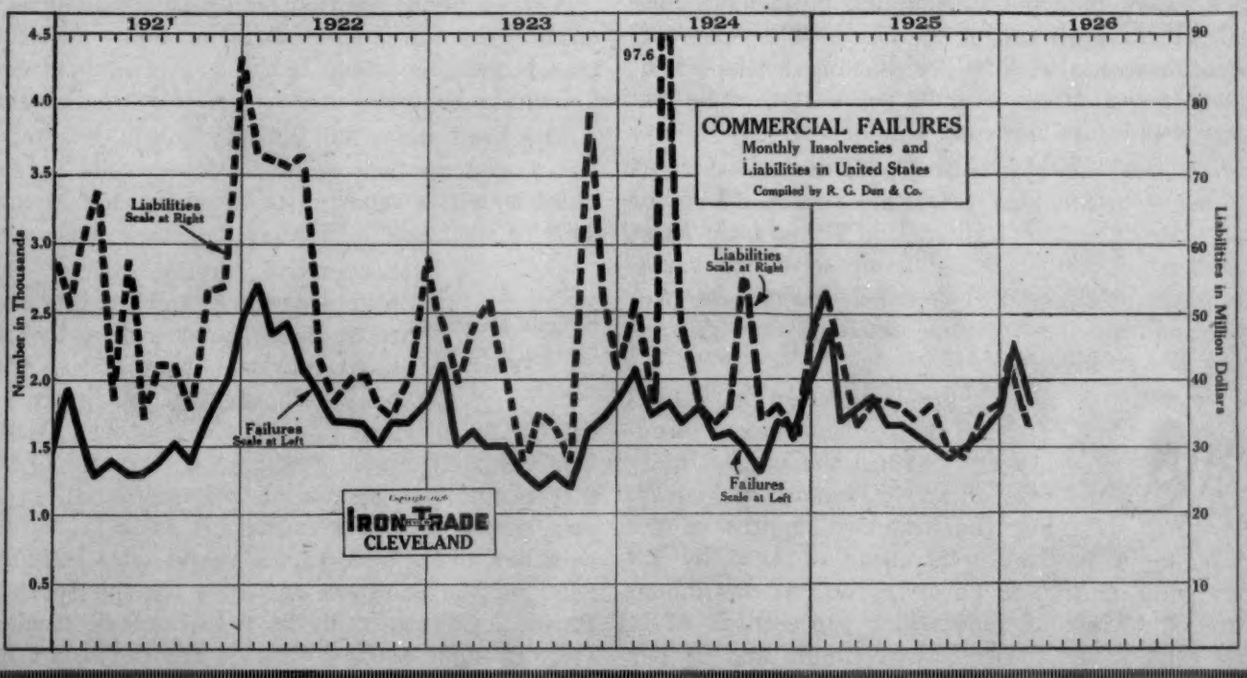


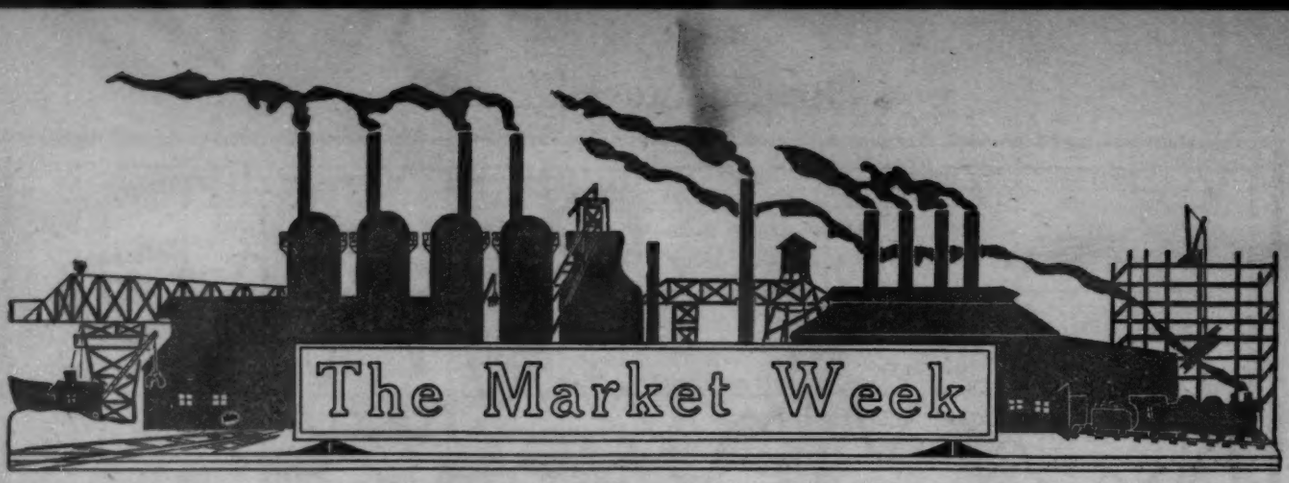
Bank Clearings

FEBRUARY brought a marked contraction in the volume of bank clearings. Aggregate check exchanges in this country amounted to $38,799,205,000, a drop of 18.7 per cent throughout the country. The decline was largely due to seasonal causes and to the short month. Compared with February, 1925, a gain of 3 per cent is shown and a new high record was established for the month. New York clearings declined 20 per cent from January but gained over one year ago. Outside of New York gain was 5.5 per cent over the total of one year ago.

Business Failures

THE record of commercial insolvencies in the United States in February shows a healthy decline. There were 1801 failures. This was 21.6 per cent fewer than the January defaults and only slightly larger than the 1793 failures in February, 1925. Liabilities last month, as computed by R. G. Dun & Co., were $34,176,000. This total was 21.7 per cent smaller than that for January and 15 per cent smaller than the aggregate of liabilities in February, 1925. Manufacturing failures increased in February over one year ago.





New Business Moving Ahead

Spreading Out of Livelier Demand Brings Further Increase in Works Operations—February Rate of Steel Production Highest for that Month on Record—Building and Railroad Requirements Expanding—Prices Show Greater Steadiness

BETTER business is developing in more quarters of the iron and steel market. Some quickening of new buying first apparent 10 days or two weeks ago has made further progress the past week in automotive, building, railroad equipment, oil and gas and certain other fields. New business in Chicago territory again is in excess of shipments. While the spirit of conservatism in providing beyond needs immediately in sight continues marked among buyers, the general prospects show up more favorably as the second quarter of the year comes nearer.

Reflecting the broader demand, steelworks and mill operations, already on a high plane, again have been pushed ahead a few steps. The Chicago district has added capacity to bring it up to 92 per cent. With 20 out of 23 blast furnaces in action, the Gary works this month may break its high record for tonnage established March, 1925. More mill and steelmaking units have gone in at Pittsburgh and in the East. The Steel corporation plants with 90 per cent operations scheduled, last week ran over 93 per cent to meet the urgent pressure for rush shipments.

The steel price situation presents added signs of being better held after the recent efforts of large producers to tighten up. The erratic sheet market, especially, looks better with the variations in black or full finished sheets less pronounced this week. Blue annealed and galvanized are steady.

High Output Is Shown

Steel ingot production in February fell 1 per cent below January but reached the highest daily rate of any February in history. For the first two months of the year, ingot production is ahead of 1925 by 1.9 per cent. Output in February was at the annual rate of 49,180,000 tons which represented 87.82 per cent of the theoretical maximum and 98 per cent of the highest mark for any single month on record.

Many Awards Are Made

Building work is moving ahead briskly with a large volume well spread out in all districts. The week's awards totaling 55,933 tons and covering 60 projects, again were largest this year and were equaled or approached only six times last year. The largest single award was 9500 tons for a San Francisco building. Four western railroads are reported to be about to place an aggregate of 30,000 tons.

Greater oil field activity is evidenced by the placing of 30,000 tons of additional pipe lines by the Standard Oil Co. of New Jersey and the Humble Oil & Refining Co. and by the new demands for storage tanks. This week's inquiries or awards for the latter sort account for 15,000 to 20,000 tons.

New inquiries for cast iron pipe continue numerous. On the Pacific Coast a total of 46,000 tons is pending which is the largest amount ever known to be under negotiation for that section.

The Ford road, the Detroit, Toledo & Ironton, has placed another order for steel rails in Belgium which is reported to be about 10,000 tons. This road made a similar purchase last year.

Roads Buying Freely

Locomotive buying which has been singularly lacking has come to the front in the railroad equipment market. New orders total about 175, chief of which are 113 for the Southern and 30 for the Southern Pacific. The Pennsylvania is maturing a program to buy 200 locomotives and build 100 additional, in its own shops. Another important week in railway cars has added 5000 to the year's total including 2850 for the Southern and 1600 for the Southern Pacific. Chicago mills have in hand or immediately in sight 100,000 tons of additional car and

locomotive plate business plus 42,000 axles.

Offerings of foreign pig iron at lower prices have forced eastern makers to adjust their quotations accordingly. European iron ranges from $19.75 to $22, duty paid tidewater. New pig iron inquiry and sales are better but not large generally. Cleveland reports about 25,000 tons.

Keen competition in ferromanganese between domestic and foreign makers has brought a reduction by the former of $15 a ton to $100, seaboard.

The fourth consecutive week finds IRON TRADE REVIEW composite of fourteen leading iron and steel products unchanged at $38.90.

Prices, Present and Past

Representative Market Figures for This Week, Last Month, Three Months and One Year Ago

	Mar. 10, 1926	Feb. 1926	Dec. 1925	Mar. 1925
PIG IRON				
Bessemer, valley, del., Pittsburgh	$22.76	22.76	22.76	23.86
Basic, valley	20.00	20.00	20.00	21.35
Basic eastern del., eastern Pa.	22.50	22.50	23.00	23.75
*No. 2 foundry, del., Pittsburgh	22.26	22.26	22.26	22.86
No. 2 foundry, Chicago	23.00	23.00	23.00	24.00
*Southern, No. 2, Birmingham	22.00	22.00	21.60	21.00
*Southern Ohio, No. 2 Ironton	21.00	20.60	21.10	21.60
**No. 2X, Virginia furnace	23.00	23.25	23.30	24.00
**No. 2X, eastern del. Phila.	23.51	24.01	24.26	24.51
Malleable, valley	20.50	20.50	20.50	21.25
Malleable, Chicago	23.00	23.00	23.00	24.00
Lake Superior charcoal, Chicago	29.04	29.04	29.04	29.04
Gray forge, val., del. Pittsburgh	21.76	21.76	21.76	22.36
Ferromanganese, del., Pittsburgh	104.79	119.79	119.79	119.79
*1.75 to 2.25 silicon. **2.25 to 2.75 silicon.				
COKE				
Connellsville, furnace, ovens	3.25	7.45	4.00	3.35
Connellsville, foundry, ovens	4.50	6.50	5.10	3.85
SEMIFINISHED MATERIAL				
Sheet bars, open-hearth, Youngstown	36.00	36.00	36.60	38.50
Sheet bars, open-hearth, Pittsburgh	36.00	36.00	36.60	38.50
Billets, open-hearth, Pittsburgh	35.00	35.00	35.20	37.75
Wire rods, Pittsburgh	45.00	45.00	45.40	48.00
FINISHED MATERIAL				
Steel bars, Pittsburgh	2.00	2.00	2.00	2.10
Steel bars, Chicago	2.10	2.10	2.10	2.20
Steel bars, Philadelphia	2.32	2.32	2.32	2.42
Iron bars, Philadelphia	2.22	2.22	2.22	2.28
Iron bars, Chicago, mill	2.00	2.00	2.00	2.10
Beams, Pittsburgh	1.90	1.90	1.95	2.10
Beams, Philadelphia	2.17	2.17	2.17	2.32
Beams, Chicago	2.10	2.10	2.10	2.30
Tank plates, Pittsburgh	1.85	1.85	1.90	2.05
Tank plates, Philadelphia	2.12	2.12	2.07	2.37
Tank plates, Chicago	2.10	2.10	2.10	2.30
Sheets, black, No. 28, Pittsburgh	3.25	3.35	3.35	3.45
Sheets, blue anl., No. 10, Pittsburgh	2.50	2.50	2.50	2.65
Sheets, galvanized, No. 28, Pittsburgh	4.60	4.60	4.60	4.70
Sheets, black, No. 28, Chicago	3.50	3.50	3.50	3.75
Sheets, blue anl. No. 10, Chicago	2.65	2.65	2.65	2.85
Sheets, galvanized, No. 28, Chicago	4.75	4.75	4.75	4.90
Wire nails, Pittsburgh	2.65	2.65	2.65	2.85
Wire nails, Chicago	2.70	2.70	2.70	3.00
Tin plate per base box, Pittsburgh	$5.50	5.50	5.50	5.50
OLD MATERIAL				
Heavy melting steel, Pittsburgh	18.00	17.60	19.00	18.25
Heavy melting steel, eastern Pa.	15.75	16.35	17.65	16.25
Heavy melting steel, Chicago	14.25	13.75	15.50	16.70
No. 1 wrought, eastern Pa.	18.00	18.00	18.75	19.50
No. 1 wrought, Chicago	14.50	14.40	15.40	16.65
Rails for rolling, Chicago	16.50	16.30	18.55	18.15

Composite Market Average

The Fourteen Leading Iron and Steel Products Included are Pig Iron, Billets, Slabs, Sheet Bars, Wire Rods, Steel Bars, Plates, Structural Shapes, Black, Galvanized and Blue Annealed Sheets, Tin Plate, Wire Nails and Black Pipe

This week (March 10, 1926)	$38.90
Last week (March 3, 1926)	38.90
One month ago (February, 1926)	38.95
Three months ago (December, 1925)	39.14
One year ago (March, 1925)	40.70
Ten years ago (March, 1916)	37.18
Thirteen years ago (March, 1913)	27.93

Late News Flashes

Japanese Buy More American Rails

Washington, March 9.—Japanese government railways have placed another order for 5500 tons of American 100-pound rails and splice bars. This order follows other recent business booked for Japan in this country, the bureau of foreign and domestic commerce announces.

Will Blow In Troy Blast Furnace

New York, March 9.—The blast furnace of the Hudson Valley Coke & Products Corp. at Troy, N. Y., will be lighted March 20, it has been announced. This furnace has been completely rebuilt from the plant formerly operated by the Troy Furnace Corp. and owned by the Burden Iron Co. Reconstruction of the furnace has just been completed. It will have a daily capacity of 450 tons, an increase of about 50 per cent.

Valley Bar Mills at Capacity

Youngstown, March 9.—Sheet mill operations are at 87 per cent of capacity, the same as a week ago. Steelworks in this district have 54 open hearths active or 80 per cent of physical capacity. This is the same rate as was in effect last week. Eighty per cent of the hot tin mills in this district are scheduled. Bar mill operation has been stepped up to capacity. Strip mills are scheduled about 90 per cent.

Gary May Break Record

Chicago, March 9.—Illinois Steel Co. has blown in another stack at South Chicago, making 20 of its 23 steel works stacks at Gary and South Chicago active and bringing its operations at these plants close to capacity. Breaking of the March, 1925, record for tonnage at Gary this month is considered possible. For the Chicago district as a whole 29 out of 35 steel works stacks are active. Ingot operations average close to 92 per cent.

Pittsburgh Production On Rise

Pittsburgh, March 9.—Steelmaking on the part of independents here is increasing a trifle. The Pittsburgh Steel Co., which for a time had only six out of 12 open-hearths on, now has eight active. The Pittsburgh Crucible Steel Co. has 10 making steel. The Jones & Laughlin and Bethlehem Steel corporations are running about 85 per cent, and the Carnegie Steel Co. about 90 per cent. The Homestead and Duquesne plants of the Carnegie Steel Co. show increases.

At Sharon, an additional open-hearth furnace was lighted at the Carnegie plant, placing 11 out of 15 in operation for the first time this year.

Current Rolled Steel Prices

PRICES, CENTS PER POUND, UNLESS OTHERWISE STATED

Semifinished Material

Prices per gross ton

BILLETS AND BLOOMS

4 x 4-inch base

Pittsburgh, open-hearth	$35.00
Pittsburgh, bessemer	35.00
Youngstown	35.00
Philadelphia	40.30 to 41.30
Chicago	35.00
Forging, Pittsburgh	41.00
Forging, Philadelphia	45.30 to 46.30

SHEET BARS

Pittsburgh	36.00
Youngstown	36.00

SLABS

Pittsburgh	35.00
Youngstown	35.00

WIRE RODS

¼-inch and finer

Pittsburgh	$45.00
Cleveland	45.00
Chicago	46.00

Standard extras, $2.50 per ton over ⅝-inch; $5 for screw stock; $15 for acid wire rods. Carbon extras, $3 for 0.20 to 0.40; $5 for 0.41 to 0.55; $7.50 for 0.56 to 0.75; $10 over 0.75.

SKELP

Grooved skelp, Pittsburgh	1.85c to 1.90c
Universal skelp, Pittsburgh	1.85c to 1.90c
Sheared skelp, Pittsburgh	1.85c to 1.90c

Structural Shapes

Pittsburgh	1.90c to 2.00c
Philadelphia	1.96c to 2.32c
New York	2.14c to 2.34c
Chicago	2.10c
Cleveland	2.09c to 2.19c
Birmingham	2.05c to 2.15c

Steel Plates

Pittsburgh	1.80c to 1.90c
Philadelphia	2.15c
New York	2.14c
Chicago	2.10c
Cleveland	1.99c to 2.09c
Birmingham	1.95c to 2.05c

Iron and Steel Bars

Pittsburgh, soft steel	2.00c to 2.10c
Pittsburgh, cold finishing	2.15c to 2.25c
Pittsburgh, forging quality	2.15c to 2.25c
Philadelphia, soft steel	2.32c
New York, soft steel	2.34c
Chicago, soft steel	2.10c
Cleveland, soft steel	2.19c
Birmingham, soft steel	2.15c to 2.25c
San Francisco, soft steel	2.60c
Pittsburgh, refined iron	3.00c to 4.50c
Pittsburgh, reinforcing billet	2.00c to 2.10c
Youngstown, reinf. billet, base	1.90c to 2.00c
Chicago, rail steel	2.00c
Mill rail steel	1.85c to 1.95c
Philadelphia, common iron	2.22c
New York, common iron	2.24c
Chicago, common iron	2.00c

Hoops, Bands Strips

Hoops, Pittsburgh, 6 inches and under	2.50c
Bands, Pittsburgh, 6 inches and under	2.50c
Bands, Pittsburgh over 6 in.	2.30c
Hot rolled strip steel, Pittsburgh stamping quality	2.30c
Hot rolled strip steel, Chicago	2.50c to 2.60c
Bands, Chicago, under 6 inches	2.60c
Bands, Chicago, 6 in. and over	2.50c
Cold rolled strip steel, hard coils, 1⅛ inches and wider by 0.100-inch and heavier, base, Pittsburgh, Cleveland Worcester, Mass., Chicago	3.90c 4.05c to 4.15c

Cold Finished Steel

Cold finished steel bars, drawn, or rolled Pittsburgh, Chicago carloads	2.50c
Less carload	2.75c
Steel shafting turned and polished Pittsburgh, Chicago	2.60c

Screw stock base Cleveland $1 higher; and Worcester $3 higher than Pittsburgh and Chicago.

Hot Rolled Alloy Steel

Pittsburgh or Chicago

S. A. E. Series—	
2300 (3½ per cent nickel)	4.60c
3100 (Nickel chromium)	3.60c
6100 (Chrome vanadium)	4.40c
6100 (Chrome vanad. spring)	3.85c
9250 (Silico-mang. spring)	3.25c to 3.40c

Rails, Track Material

Standard bessemer rails, mill	$43.00
Standard open-h'th rails, mill	43.00
Relaying rails, St. Louis	24.00 to 31.00
Relaying rails, Pittsburgh	23.00 to 25.00
Light rails, 25 to 45 mill g.t.	35.00
Angle bars, Chicago base	2.75c
Spikes, railroad, Pittsburgh	2.80c
Spikes, small railroad, 7-16-inch and smaller, Pitts.	3.00c to 3.10c
Spikes, boat and barge, Pitts.	3.25c
Spikes, railroad, Chicago	2.90c to 3.00c
Track bolts, Pitts. standard	3.90c to 4.15c
Track bolts, Chicago	3.90c to 4.15c
Tie plates, Pittsburgh	2.35c
Tie plates, Chicago	2.25c

Wire Products

To Jobbers in Carloads

F.o.b. Cleveland and Pittsburgh base

Wire nails	2.65c
Galv'd nails smaller than 1-inch	4.90c
Galv'd nails, 1-inch and over	4.65c
Plain wire	2.50c
Annealed wire	2.65c
Galvanized wire No. 9 gage	3.10c
Barbed wire, painted	3.10c
Barbed wire, galvanized	3.35c
Polished staples	3.10c
Galvanized staples	3.35c

Coated nails, 100 pound kegs, subject to card of extras Feb. 1, 1926 over regular wire nail base.

Woven wire fencing (retailers) 12½ gage, 26-in. high 7-in. bars and 12-in. stays, per 100 rods, f.o.b. Pitts. $20.03

Joliet, DeKalb and Waukegan, Ill., and Anderson, Ind., prices $1 per ton over Cleveland-Pittsburgh base on products made there; Chicago $1 higher; Duluth $2 higher and Worcester, Mass., and Fairfield, Ala., $3 higher.

Sheets

SHEET MILL BLACK

No. 28, Pittsburgh, base	3.25c to 3.35c
No. 28, Philadelphia, delivered	3.67c
No. 28, Gary, Indiana Harbor	3.45c
No. 28, Chicago delivered	3.50c

TIN MILL, BLACK

No. 28, Pittsburgh	3.25c to 3.35c
No. 28, Gary base	3.45c

GALVANIZED

No. 28, Pittsburgh, base	4.50c to 4.60c
No. 28, Philadelphia, delivered	4.92c
No. 28, Gary, Indiana Harbor	4.70c
No. 28, Chicago, delivered	4.75c

BLUE ANNEALED

No. 10, Pittsburgh, base	2.45c to 2.50c
No. 10, Philadelphia, delivered	2.82c
No. 10, Gary, Indiana Harbor	2.60c
No. 10, Chicago, delivered	2.65c

AUTOMOBILE SHEETS

No. 22, Pittsburgh, base	4.40c

Tin and Terne Plate

Prices per 100-pound box, Pittsburgh

*Tin plate, coke base	$5.50

Gary, Ind., base 10 cents higher.

Long ternes, base	4.85

*This price is subject to quantity differentials established by individual regulations.

Iron and Steel Pipe

Base Discounts Pittsburgh and Lorain, O. to Jobbers in Carloads

	Black	Galv.
1 to 3-inch butt steel	62	50½
1 to 1½-inch, butt iron	30	13

Indiana Harbor, Ind., and Evanston, Ill., 2 points less and $4 per ton higher. Chicago delivered 2½ points less and $5 per ton higher.

Boiler Tubes

Less Carload Discounts—Carloads 4 Points Additional—F.o.b. Pittsburgh Mills

Steel 3¼ to 3¾-inch	38½
Charcoal iron, 3½ to 4½-inch	5
Seamless hot rolled, 3¼ to 3½-inch	46 off

Chain, Piling, Cut Nails

Chain, 1-in. proof coil, Pitts.	6.00c
Sheet piling base, Pittsburgh	2.25c to 2.30c
Cut nails, c. l., f.o.b. mills	2.30c

Cast Iron Water Pipe

Prices per net ton

Class B Pipe

Four-inch, Chicago	$53.20 to 54.20
Six-inch and over, Chicago	49.20 to 50.20
Four-inch, Birmingham	44.00 to 45.00
Six-inch and over, Birmingham	40.00 to 41.00
Four-inch, New York	56.50 to 57.60
Six-inch and over, New York	51.50 to 52.60

Standard fittings, Birmingham base $110.00, 6 to 24-inch, base; over 24-inch, plus $20; 4-inch, plus $20; 3-inch, plus $20; gas pipe fittings, $5 higher.

Class A pipe is $5 higher than Class B

Nuts and Bolts

F.o.b. basing points, Pittsburgh, Cleveland, Birmingham and Chicago.

Hot pressed square tapped or blank	$4.00 off list
Hot pressed hexagon tapped or blank	$4.40 off list
Cold punched square or hexagon blank	$4.10 off list
Cold punched square or hexagon tapped or blank	$4.10 off list
Cold punched U. S. S. semifinished hexagon nuts ⅝-inch and larger	75, 10 and 5 off
Cold punched U. S. S. semifinished hexagon nuts 9/16-inch and smaller	80, 10 and 5 off
Cold finished S. A. E. semifinished ⅝-inch and larger	75, 10, 10 and 5 off
Cold finished S. A. E. semifinished 9/16-inch and smaller	80, 10, 10 and 5 off

CARRIAGE BOLTS

(⅜ x 6-inch, smaller and shorter)

Rolled thread	50, 10 and 10 off
Cut thread (all sizes)	50 and 10 off
Eagle carriage bolts (Eagle list)	65 and 10 off

MACHINE BOLTS

(⅜ x 4-inch, hot pressed nuts)

Rolled thread	60 and 10 off
Cut thread (all sizes)	50, 10 and 10 off

(All sizes cold punched nuts)

Cut thread	45, 10 and 5 off
Lag screws	60, 10 and 10 off
Plow bolts Nos. 3 and 7 heads	50 and 10 off
All other standard heads	50 and 10 off plus 20 per cent
Tap bolts	30 off
Bolt ends with hot pressed nuts	50, 10 and 10 off
Bolt ends with cold punched nuts	45, 10 and 5 off
Blank bolts	50, 10 and 10 off

Rough stud bolts with nuts (250 pieces or more of a size) 40 and 10 off

Stove bolts, 80, 10 and 5 off plus 2½ off in bulk.

Tire bolts	60 and 5 off

SEMIFINISHED CASTELLATED AND SLOTTED NUTS

Per 1000, f.o.b. producer's plant, freight allowed

	S.A.E. Castellated	U.S.S. Slotted
¼	$ 4.40	$ 4.40
5/16	5.15	5.15
⅜	6.20	6.60
7/16	7.90	9.00
½	10.10	10.50
9/16	13.80	14.20
⅝	17.00	17.30
¾	23.50	24.00
⅞	36.00	36.00
1	55.50	58.00
1⅛	89.00	89.00
1¼	126.00	131.00
1⅜	183.50	183.50
1½	210.00	210.00

Larger sizes—Prices on application

HEXAGON CAP SCREWS

Milled	80 and 10 off
Upset	80, 10 and 10 off

SQUARE HEAD SET SCREWS

Milled	80 and 5 off
Upset	80, 10 and 5 off

Rivets

Structural rivets, carloads, Pittsburgh and Cleveland	2.50c to 2.60c
Structural rivets, carloads, Chicago	2.75c
**Rivets, 7/16-inch and smaller Pittsburgh Cleveland	70 and 10 to 70 and 5 off
**Rivets, 7/16 inch and smaller Chicago	70 and 10 to 70 and 5 off

**Some makers quoting 70 off with freight allowed on 300 pounds or more.

Washers

Wrought c.l., Chicago dist.	$6.30 to 6.40 off
Wrought c.l., Pitts. dist	6.25 off
Lock Washers, f.o.b. factory	85 off

Pig Iron

Buying Confined to Small Prompt Lots—Second Quarter Tonnages Slow to Come Out—Inquiries Small

BUYERS of pig iron are adopting a waiting policy with regard to second quarter contracts. Instead of customary inquiries being issued for second quarter requirements, consumers are ordering out 50 to 100 tons at a time for filling in. Inquiry is confined to 5000 to 7000 tons at Buffalo, 7000 tons at Cincinnati and 10,000 tons at Cleveland.

Sales include 15,000 tons by Cleveland furnace interests, 2000 to 3000 tons for a Chicago melter and several other lots of 1000 tons. Encouraging factors such as unusually heavy automotive production lead makers to believe second quarter buying will be extensive. Prices show little change, being held firmly. Second quarter sales made at first quarter levels.

PITTSBURGH, March 9.—Activity in pig iron continues fragmentary, buyers taking only what they need. They are satisfied with 50 to 100 tons at a time for filling in purposes and are not yet ready to close on second quarter requirements. Some tentative inquiries are out for second quarter but efforts to inspire purchases for future needs prove useless. One buyer closed on three carloads of bessemer at $21 valley. No basic sales or inquiries are noted and $20 valley still is quoted. Foundry and malleable are unchanged and only single carload sales are supporting the $20.50 valley prices. Pressed Steel Car Co. recently inquired for 1000 tons of car wheel iron. Several nearby users bought valley low phosphorus around $28 or $28.50, sales rarely exceeding 150 tons at a time. Eastern prices around $23 furnace are not inspiring much activity in this territory. A. M. Byers Co. stack is to blow in March 20 or 25 and those of the Clinton Iron & Steel Co. and Claire Furnace Co. about April 1.

Boston, March 9.—Eastern furnaces have made lower quotations during the week to meet foreign competition. Offsetting this, consumers express greater confidence in second quarter iron. Buffalo furnaces are firm at $21 or $25.91 delivered for prompt but are shading this level on round tonnages for second quarter. An eastern Massachusetts manufacturer wants 2000 tons of No. 2X for second quarter. A Connecticut manufacturer is inquiring for 1200 tons for the same delivery. Official figures give 1925 imports at Boston as 104,752 tons. Arrivals this year have averaged 1000 tons a week. Many New England foundries recently have come into the market. A Rhode Island melter wants 1000 tons; another Rhode Island foundry, 250 tons. The Gilbert & Barker Mfg. Co. is in the market for 2000 tons. A northern New England melter is in the market for 200 tons.

Philadelphia, March 9.—Pig iron buying is restricted to small lots for prompt delivery. A number of important consumers are feeling out the market and indications are that some second quarter buying will be transacted shortly. Inquiry by the Pennsylvania railroad for second quarter is expected and Norfolk & Western is in the market for several hundred tons of foundry iron. The market on this grade is $22 to $22.50 base eastern Pennsylvania furnace. The usual prices on foreign foundry iron continue $21 to $22, duty paid but prices are heard as low as $19 to $19.50, c.i.f. to which must be added 75 cents duty. Basic continues featureless. Low phosphorus business is small.

Pig Iron Prices

Prices per gross ton

Bessemer, valley	$21.00
Bessemer, Pittsburgh	22.76
Basic, valley	20.00
Basic, Pittsburgh	21.76
Basic, Buffalo	20.00 to 20.50
Basic, del., eastern Pa.	22.50
Malleable, valley	20.50
Malleable, Pittsburgh	22.26
Malleable, del., Cleveland	22.00 to 22.26
Malleable, Chicago	23.00
Malleable, Buffalo	21.00
Malleable, del., eastern Pa.	23.25 to 24.00
No. IX, eastern del., Phila.	23.50 to 24.76
No. IX, Buffalo	22.50 to 23.50
No. 1 foundry, Chicago	23.50
No. 2 foundry, valley	20.50
No. 2 foundry, Pittsburgh	22.26
No. 2 foundry, Buffalo	21.00
No. 2 foundry, Chicago	23.00
No. 2 foundry, Granite City	23.50 to 24.00
No. 2 foundry, Ironton fur.	21.00
No. 2 foundry, del., Cleveland	22.00 to 22.26
No. 2 foundry, del., Phila.	22.76 to 23.39
No. 2 foundry, N. J., tidewater	23.39 to 23.76
No. 2X, eastern del., Phila.	23.26 to 23.89
No. 2X, east, N. J., tidewater	23.89 to 24.26
No. 2X, foundry, Buffalo, furnace	21.50
No. 2X, eastern del., Boston	25.65 to 26.65
No. 2X, Buffalo, del., Boston	25.91 to 26.91
Continental foundry f.o.b. Boston	20.50 to 21.50
India, 2.25 to 2.75 silicon, delivered cars, Boston	21.00 to 22.00
No. 2 Alabama, Birmingham	22.00 to 23.00
No. 2 Alabama, Cincinnati	26.69
No. 2 Tenn., Birmingham	21.50
No. 2 Tenn., Cincinnati	25.19
No. 2 southern, Philadelphia	27.01 to 28.01
No. 2 southern, Chicago	28.01
No. 2 southern, Chicago (barge and rail)	26.18
No. 2 southern, Boston (rail and water)	27.91 to 28.91
No. 2 southern, Cleveland	27.01 to 28.01
No. 2 southern, St. Louis	25.42 to 26.42
No. 2X, Virginia, furnace	23.00 to 23.25
No. 2X, Virginia, Phila.	28.17 to 28.42
No. 2X, Virginia, Jersey City	28.54 to 28.79
No. 2X, Virginia, Boston	28.92 to 29.17
Gray forge, eastern Pa.	22.50 to 23.00
Gray forge, val. del. Pitts.	21.76
Low phos., standard, valley	28.00 to 28.50
Low phos., standard, Phila.	24.76 to 27.79
Low phos., Lebanon, furnace	23.00 to 24.00
*Low phos., English	24.26 to 24.76
Charcoal, Birmingham	31.00 to 32.00
Charcoal, Superior, Chicago	29.04

Silvery iron Jackson county, Ohio furnace, 5 per cent $27.50; 6 per cent $28.50; 7 per cent $29.50; 8 per cent $30.50; 9 per cent $32.00; 10 per cent $34.00; 11 per cent $36.00; 12 per cent $38.00; 13 per cent $40.00; and 14 per cent $42.00.

Bessemer ferrosilicon, Jackson county, Ohio, furnace, 10 per cent $36.00; 11 per cent $38.00; 12 per cent $40.00; 13 per cent $42.00; 14 per cent $44.00; 15 per cent $46.00; 16 per cent $49.00; 17 per cent $51.50.

*Duty paid, delivered Philadelphia consumers.

Buffalo, March 9.—Most of last week's pig iron inquiry has been covered. New inquiry totals 5000 to 7000 tons, some makers reporting even more. The largest lot is 2000 tons for a Batavia consumer. The current price is $21 for low silicon foundry and malleable, with differentials. Some makers continue to try to get $22 base for iron but lower quotations can be had from most makers. February sales were well in excess of those of the same month of 1925, and shipments likewise were greater. Operation is unchanged, 16 of 21 furnaces being in blast.

Cleveland, March 9.—An increase is noted in the number of inquiries for pig iron, and in sales, as the time approaches when melters must replenish supplies. Sales by furnace interests represented here in the past week amounted to about 15,000 tons, and inquiries pending at this time total 10,000 tons. A Muncie, Ind. foundry is in the market for 3000 tons of malleable; two Michigan melters are inquiring for 1500 tons each; the Gilbert & Barker Mfg. Co., Springfield, Mass., also wants 2000 tons of foundry iron for second quarter. A larger volume of business is expected during the remainder of this month; but some sellers do not anticipate a buying movement to cover the entire second quarter, mainly because there does not appear to be any immediate prospect of an advance in prices. Most melters have taken out practically all of their first quarter iron. Reports of new records being attained in motor car manufacture by some of the companies in the Detroit district are heard; employment is the highest in the history of the Detroit manufacturing area. Pig iron prices continue steady. An inquiry for 600 tons was closed, part of it being placed at $21, Buffalo, and the remainder at $20.50, valley. Lake furnaces continue to quote $22, and have lost some good size orders recently to central Ohio and southern makers quoting $21, base furnace, and Ironton. The Cleveland market is quiet; $21.50 base, furnace, is being quoted.

Cincinnati, March 9.—With inquiry

(*Concluded on Page 666*)

The Market Section

Coke

Market on Beehive Stiffer With $3.25 Minimum—Second Quarter Contracts Still Few

ACTION on second quarter coke contracts continues deferred as consumers buy only for immediate needs. Although some $3 spot is available on beehive, $3.25 is generally minimum. Second quarter tonnage is quoted $3.50 to $3.75. Eastern freight congestion is being relieved. Lessened domestic demand has weakened Wise county prices.

Pittsburgh, March 9.—Blast furnace consumers of beehive coke continue to postpone action on second quarter contracts. The market has stiffened up slightly since a week ago and makers now are inclined to maintain $3.25 as a minimum. The $3 spot figure practically has disappeared as progress has been made in clearing up eastern congestion. To aid this movement a score or more personal representatives of coke producers are visiting New York and other eastern points. Quotations on current second quarter contracts vary from $3.50 to $3.75. The trade expects a few renewals from gas producers, others returning to anthracite. Several spot sales were noted during the past few days at $4.25. One offer to pay $3.40 for March tonnage was turned down. One blast furnace interest paid $3.60 or $3.65 on 2000 tons for filling in purposes but this hardly is a market criterion since the purchaser previously had bought at an exceptionally low figure from the same source when the market was considerably higher. One small heating coke sale brought $3.75 but medium sulphur and high sulphur usually are quoted $3 to $3.25. Few smelters are ready to close April 1 on their yearly contracts. Foundry coke customers are not so eager to close on second quarter requirements and $4 a ton quotations prevalent late last week have disappeared. The minimum now on standard 72-hour fuel is $4.50 and other prices running up to $6 are encountered.

Production of coke in the Connellsville region for the week ended Feb. 27 was 206,000 tons, as compared with 232,160 tons the preceding week, according to *The Connellsville Courier*.

Boston, March 9.—Foundry coke demand continues active and the by-product price is unchanged at $13.00 delivered. The commercial coke market is upset by large tonnages of foreign coke and substitute anthracite fuel intended for domestic trade, and now offered in competition with regular commercial coke.

New York, March 9.—Good business in spot coke continues. Foundry grade is quoted $4.25 to $5.50 Connellsville, depending upon the brand. Furnace coke is $3 to $3.50 a ton. By-product foundry prices are unchanged.

Cincinnati, March 9.—Improvement in foundry operations has stimulated demand for coke, particularly by-product. With spring in sight, the domestic fuel situation is easier. The Wise country market is weaker, with the furnace grade down to $4 and the foundry $5 to $5.50 ovens. The New River grade is firm at $7.50 ovens. Production has been slightly curtailed in the Wise county and New River districts.

St. Louis, March 8.—While the demand for foundry coke continues fairly brisk, sellers report more difficulty in sustaining prices. While quotably the market is unchanged it is reported cuts are being made to meet competition. The largest single sale in the week was 500 tons to a northern Illinois melter for delivery through the next two months.

Birmingham, Ala., March 8.—With quotations firm at $5.50 and in small lots for quick delivery, $6 per ton, the coke trade in Alabama is active. Production and shipments are steady. By-product plants are in full operation.

Coke Prices

Beehive, Ovens

Prices per net ton

Connellsville furnace	$ 3.25 to 3.50
Connellsville foundry	4.50 to 5.00
New River foundry	7.50
New River furnace	5.25 to 5.50
Wise county furnace	4.00 to 4.50
Wise county foundry	5.00 to 5.50
Alabama foundry	5.50 to 6.00
Alabama furnace	5.00 to 5.25

By-Product

Foundry, Newark, N. J.; del.	$11.01 to 11.52
Foundry, Chicago, ovens	10.50
Foundry, New England, del.	13.00
Foundry, St. Louis	10.00
Foundry, Granite City, Ill.	10.00
Foundry, Birmingham	5.50 to 6.00
Foundry, Indianapolis, del.	11.25

Ferroalloys

Domestic Ferromanganese Reduced To $100—Other Ferroalloys Steady

New York, March 9.—Reduction of domestic and Norwegian ferromanganese from $115 to $100, tidewater, effective March 6, has resulted in some new business being taken including several substantial tonnages although consumers generally have been covered through past purchases. The reduction caused little surprise as it has become generally known in recent weeks that large tonnages for 1926 delivery were entered quietly last fall by other makers at $100, tidewater. English and German producers also have been reducing, going to $110, seaboard.

The Imperial Steel Works of Japan has closed its inquiry for 500 tons of 72 per cent ferromanganese. It will be supplied by the Tata Iron & Steel Co. of India. The price was equivalent to $71.10 per gross ton, c.i.f. Japan.

Spiegeleisen sales remain small but contract shipments heavy. The 19 and 21 per cent grade which is scarce continues at $34 furnace.

Special ferroalloys are steady. On silicon and chrome, contracts take care of all needs. Current vanadium prices hold while tungsten sales mostly are of ore for conversion. Wolframite has sold at $5 and a few cents higher, on futures, equal to $12.15 a short ton unit duty paid. Up to $12.30 has been heard recently on spot but lower prices are readily available now, with rumors down close to $12.

Pittsburgh, March 9.—Ferromanganese has been rendered quite active by the action March 6 of E. J. Lavino & Co. in reducing the price from $115 seaboard base, to $100 for delivery over the remainder of the year. Several customers are checking over their requirements and are getting ready to buy. Some already closed are seeking adjustments. One English seller reduced to $110, seaboard, Monday but has sold nothing. Prior to these declines prices had been quietly shaded, chiefly on foreign material. Interest is awakening in second quarter requirements of other alloys. Spiegeleisen prices have held and some inquiries are appearing on low grade material. Prices are the same, $33 and $34. Specifications against most all alloy contracts are being received with regularity.

Chicago, March 9.—A domestic maker is actively soliciting business in ferromanganese at $100, seaboard, a reduction of $15 from the recent market. Foreign makers are reported to have come down to $110. In this district sales have not been greatly stimulated, as most users are covered for the second quarter and others are not inclined to buy on what they believe may be the first dip.

Ferroalloy Prices

†Ferromanganese 78 to 82 per cent, tidewater, or furnace first hand and resales	$100.00 to 110.00
Ferromanganese delivered Pittsburgh	104.79 to 114.79
Spiegeleisen 19 to 21 per cent domestic furnace or tidewater	34.00
Ferrosilicon, 50 per cent contract freight allowed	85.00
Ferrotungsten standard, per pound contained	1.14 to 1.18
Ferrochrome, 60 to 70 chromimum, 6 to 8 carbon, cents per pound contained, delivered	11.00 to 11.50
Ferrovanadium, 30 to 40 per cent per pound estimated, according to analysis	3.25 to 4.00
Ferro-carbon-titanium, car lots, producer's plant, net ton	200.00
Ferrophosphorus, electrolytic, per ton, carload, 17 to 19 per cent, Rockdale, Tenn., basis (18 per cent material)	91.00
Ferrophosphorus, electrolytic, per ton, carload, 23 to 25 per cent, f.o.b. Anniston, Ala., (24 per cent materials)	122.50

†Duty paid.

Plates

Car and Locomotive Activity Feature Demand—Heavier Oil Tank Tonnage Appearing

PLATE requirements for railroad car and locomotive business being placed features demand on western mills. Specifications expected this week at Chicago total 100,000 tons. Oil storage tank tonnage is appearing more readily. Less eastern competition has strengthened 2.10c, Chicago, in that district, but 1.80c, Pittsburgh, is common in the East.

PLATE PRICES, PAGE 654

Chicago, March 9.—Requirements for car steel have been piling up and it is estimated that specifications now coming out or expected within a week total 100,000 tons, mostly plates. Practically all of the recent car purchasers are pressing for delivery and the most tonnage in months is piling up behind plate mills. Oil storage tank business is increasing. One maker has booked 4500 tons for the new Pan Handle field in Texas and has 3000 tons more about to be closed. A second maker has 4000 tons of tank work pending. The Standard Oil Co. has placed tanks requiring 1500 tons of plates. Eastern competition for plate business in the greater Chicago district has eased off and the market is firmer at 2.10c, Chicago. The leading independent has opened second quarter books at this level.

Boston, March 9.—Plate bookings, although low, show improvement, and prices are firm at 1.80c Pittsburgh.

Philadelphia, March 9.—Plate bookings by eastern mills have improved and deliveries are more extended. The market appears firm at 1.80c Pittsburgh although mills are quoting 1.90c for second quarter tonnage.

New York, March 9.—Shipping requirements feature the local plate market. Two 360-foot freighters will be built for the United States Gypsum Co. on which action is expected shortly; the New Haven railroad continues in the market for two carfloats, and the Long Island railroad for a diesel driven tugboat. An inquiry has appeared for a 250-foot passenger and freight boat for Pacific Coast service. Reports reach makers that Hudson River Day Line may buy a boat, the Clyde line two additional and that another may be put into New York and Porto Rico service.

Pittsburgh, March 9.—While some of the plate mills, particularly the Carnegie Steel Co., have good backlogs of car plate business, day to day demand for plates continues small. Pittsburgh Steel Co. is in the market for an all steel steamboat. Plates are stronger there being less disposition to go below 1.85c, and 1.90c is sought for second quarter, but attractive tonnages offered at 1.80c would still tempt the plate mills.

Cleveland, March 9.—Better business in plates is reported by various producers with an increasing amount of small lot orders going at 2.09c, Cleveland or 1.90c, Pittsburgh. Some quotations below this figure remain outstanding but these seem to be gradually becoming less as these matters are cleaned up. While the market cannot be said to be firm at 1.90c, Pittsburgh, it exhibits more strength than several weeks ago and is improved. For locomotives for the Southern railroad coming to a builder in this district, some 600 to 800 tons will be required.

CONTRACTS PLACED

2020 tons, 22 tanks for Union Oil Co., Los Angeles, to Western Pipe & Steel Co.
425 tons, small tanks for Pan American Petroleum Corp., Los Angeles, to unnamed fabricator.
300 tons, 52-inch lock-bar pipe line, Tacoma, Wash., to Williamette Iron & Steel Co.
150 tons, four 10,000-barrel tanks for a southwestern location, to the Riter-Conley Co.
150 tons, two scows for the United States engineers, Louisville, Ky., to the Dubuque Boat & Boiler Works, Dubuque, Iowa.

CONTRACTS PENDING

150 tons, three barges for a St. Louis, Mo., sand company; bids being taken.
100 tons, steel deck barge for the city of Greenville, Miss.; bids being asked.
1000 tons, pipe line, Dalles, Oreg.; bids in March 16.

Dinner Given J. E. Jones

In appreciation of the unusual service which James E. Jones, chief roll designer of the Illinois Steel Co., South Chicago, Ill., has given to the steel industry, 53 prominent friends identified with the Steel industry gave a testimonial dinner at the Pittsburgh Athletic club last Saturday evening, March 6. Mr. Jones is known among all roll designers of the steel companies of this country as a most conservative man and for this reason the banquet was given as a surprise. He has been with the Illinois Steel Co. for the past 21 years and has been associated with the steel industry in Mexico as well as the United States. A beautiful piece of bronze work entitled "Bronco Twister" by Clinton Shepherd was presented to him as an appreciation of Mr. Jones' work.

Semifinished

Buyers Deferring on Second Quarter Needs—Prices Held by Mills—Specifications Fair

CONSUMERS of semifinished steel continue to defer action on second quarter contracts, buying only for immediate needs. The mills continue to talk the present schedule of $35 sheet bar and $36 slab and billet prices. Several attractive sheet bar contracts are pending at Pittsburgh. An inquiry for 25,000 tons of small billets is up at Chicago.

SEMIFINISHED STEEL PRICES, PAGE 654

Pittsburgh, March 9.—Customers of the semifinished steelmakers are in no hurry to close for second quarter but it will not now be long until such arrangements will be closed up. Some in sheet bars, slabs and billets are scheduled for closing this week and with another mill becoming active in this territory, buyers here have an added source of supply. Quotations are firm at $35 on 4 x 4-inch rerolling billets and 2 x 8-inch slabs, and $36 on small billets and sheet bars. One or two fairly large sheet bar contracts will probably be closed before the week ends. Forging billet buyers already are closing second quarter contracts at $41, and one buyer who extended his first quarter tonnage closed up yesterday on a lot equivalent to his total first quarter shipments. Specifications on wire rod contracts are coming in well and within the next two weeks renewal contracts will be signed. Skelp is inactive at 1.85c to 1.90c although some activity is expected here also.

Philadelphia, March 9.—Semifinished buying is restricted to small prompt lots. Consumers are postponing second quarter tonnage. Prices are unchanged.

Youngstown, March 9.—No new semifinished tonnage is pending in this district. Sheetmakers have sufficient tonnage of sheet bars under contract for second quarter requirements. Specifications are being released to cover actual sheet orders. No negotiations yet have been opened for second quarter requirements. The last sale of sheet bars and small billets was made at $36 Youngstown and of standard slabs and billets at $35 Youngstown. These prices continue to apply.

Chicago, March 9.—The largest user of small billets in the Chicago district is understood to be in the market for a round tonnage, possibly 25,000 tons. Small billets have been quoted at $35, base, Chicago.

Iron and Steel Scrap Prices

Corrected to Tuesday Noon. Gross Tons Delivered to Consumer

Steel Works Scrap

HEAVY MELTING STEEL

Birmingham	$13.00 to 14.00
Boston (dealers)	11.00 to 11.50
Buffalo	15.00 to 15.50
Buffalo, No. 1	16.00 to 16.50
Chicago	14.00 to 14.25
Cincinnati (dealers)	12.50 to 13.00
Cleveland, No. 1	14.50 to 15.00
Cleveland, No. 2	13.50 to 14.00
Detroit	14.75 to 15.25
Eastern Pennsylvania	15.50 to 16.00
Bethlehem delivery	15.50
New York (dealers)	11.50 to 12.00
Pittsburgh	17.00 to 18.00
St. Louis	13.50 to 14.00
Valleys, No. 1	17.00
Valleys, No. 2	15.00 to 16.00

COMPRESSED SHEETS

Buffalo	14.25 to 14.75
Chicago	12.00 to 12.50
Cleveland	13.50 to 14.00
Detroit	12.50 to 13.00
Pittsburgh	16.00 to 16.50
Valleys	15.50 to 16.00

BUNDLED SHEETS

Buffalo	13.50 to 14.00
Cincinnati (dealers)	9.00 to 9.50
Cleveland	11.50 to 12.00
Eastern Pennsylvania	13.50
Pittsburgh	15.00 to 15.50
St. Louis	8.00 to 8.50

SHEET CLIPPINGS, LOOSE

Chicago	9.00 to 9.50
Cincinnati	8.00 to 8.50
Detroit	9.75 to 10.25

STEEL RAILS, SHORT

Birmingham	14.00 to 14.50
Buffalo	17.00 to 17.50
Chicago	17.75 to 18.25
Cincinnati (dealers)	17.50 to 18.00
Cleveland (over 6 ft.)	15.00 to 16.00
Detroit	17.00 to 17.50
St. Louis	17.00 to 17.50

STOVE PLATE

Birmingham	14.00 to 14.50
Boston (consumers)	13.50 to 14.00
Buffalo	15.00
Chicago	16.25 to 16.75
Cincinnati (dealers) (net)	9.00 to 9.50
Cleveland	13.00 to 13.50
Detroit (net tons)	13.25 to 13.75
Eastern Pennsylvania	14.50
New York (dealers)	10.25 to 10.75
Pittsburgh	13.50 to 14.00
St. Louis	14.50 to 15.00

LOW PHOSPHORUS

Buffalo	18.50 to 19.00
Cincinnati (dealers)	17.00 to 17.50
Eastern Pennsylvania	20.00 to 21.00
Pitts. billet and bloom crops	22.00 to 22.50

SHOVELING STEEL

Chicago	14.00 to 14.25
Pittsburgh	13.50 to 14.00
St. Louis	13.50 to 14.00

KNUCKLES, COUPLERS, SPRINGS

Chicago	17.25 to 17.75
Eastern Pennsylvania	19.00 to 21.00
Pittsburgh	20.50 to 21.00
St. Louis	14.50 to 15.00

FROGS, SWITCHES, GUARDS

Chicago (cut)	15.25 to 15.75
Eastern Pennsylvania	16.00 to 16.50
St. Louis	15.00 to 15.50

ANGLE BARS—STEEL

Buffalo	16.50 to 17.00
Chicago	16.50 to 17.00
St. Louis	15.00 to 15.50

Iron Mill Scrap

RAILROAD WROUGHT

Birmingham	$12.00 to 13.00
Boston (dealers)	13.00 to 13.50
Buffalo, No. 1	14.00 to 14.50
Buffalo, No. 2	15.50 to 16.00
Chicago, No. 1	14.50 to 15.00
Chicago, No. 2	14.00 to 14.25
Cincinnati, No. 1 (dealers)	9.50 to 10.00
Cleveland, No. 1	13.50 to 14.00
Eastern Pennsylvania	18.00
New York, No. 1 (dealers)	14.50 to 15.00
Pittsburgh, No. 1	14.00 to 14.50
Pittsburgh, No. 2	18.00 to 18.50
St. Louis, No. 1	13.00 to 13.50
St. Louis, No. 2	13.50 to 14.00

WROUGHT PIPE

Boston (dealers)	11.00 to 11.50
Buffalo	15.00 to 15.50
Eastern Pennsylvania	16.00 to 16.50
New York (dealers)	12.25 to 12.75

YARD WROUGHT

Boston	12.00 to 12.50
Eastern Pennsylvania	17.00

BUSHELING

Buffalo	14.25 to 14.75
Chicago, No. 1	12.25 to 12.75
Chicago, No. 2	9.00 to 9.50
Cincinnati, No. 1 (dealers)	9.50 to 10.00
Cleveland, No. 1	12.00 to 12.50
Cleveland, No. 2	11.50 to 12.00
Eastern Pennsylvania	14.00 to 15.00
Pittsburgh, No. 1	15.00
St. Louis, No. 1	11.75 to 12.25

MACHINE SHOP TURNINGS

Birmingham	8.00 to 8.50
Boston (chemical)	8.50 to 9.00
Buffalo	11.00 to 11.50
Chicago	9.50 to 10.00
Cincinnati (dealers)	8.00 to 8.50
Cleveland	11.50 to 12.00
Detroit	10.25 to 10.75
Eastern Pennsylvania	14.00
New York (dealers)	9.00 to 10.25
Pittsburgh	13.00 to 13.50
St. Louis	7.50 to 8.00

CAST IRON BORINGS

Birmingham (chemical)	15.50 to 16.50
Birmingham (plain)	8.00 to 9.00
Boston (chemical)	11.00 to 11.25
Boston (dealers)	9.00 to 9.50
Buffalo	12.00 to 12.50
Chicago	12.00 to 12.50
Cincinnati (dealers)	8.50 to 9.00
Cleveland	11.50 to 12.00
Detroit	10.75 to 11.25
Eastern Pennsylvania	14.00
Eastern Pennsylvania (chem.)	15.50 to 16.00
New York (dealers)	9.25 to 10.25
Pittsburgh	13.50 to 14.00
St. Louis	10.75 to 11.25
Valleys	12.50 to 13.00

MIXED BORINGS AND TURNINGS
For blast furnace use

Boston (dealers)	8.00 to 8.50
Buffalo	12.00 to 12.50
Cincinnati (dealers)	8.00 to 8.50
Cleveland	11.50 to 12.00
Detroit	10.75 to 11.25
Eastern Pennsylvania	12.50 to 13.50
New York (dealers)	9.75 to 10.25
Pittsburgh	13.50 to 14.00

PIPES AND FLUES

Chicago	12.00 to 12.50
Cincinnati (dealers)	8.50 to 9.00
Cleveland	11.00 to 11.50
St. Louis	10.50 to 11.00

RAILROAD GRATE BARS

Buffalo	13.50 to 14.00
Chicago	15.00 to 15.50
Cleveland	13.50 to 13.75
Eastern Pennsylvania	14.50
New York (dealers)	11.25 to 11.75
St. Louis	13.00 to 13.50

FORGE FLASHINGS

Boston (dealers)	9.50 to 10.00
Buffalo	13.00 to 13.50
Chicago	10.00 to 10.50
Cleveland (under 10 in.)	12.75 to 13.25
Cleveland (over 10 in.)	12.75 to 13.25
Detroit	10.50 to 11.00
Pittsburgh	14.00 to 14.50

FORGE SCRAP

Boston (dealers)	9.00 to 9.50
Chicago	18.00 to 18.50
Eastern Pennsylvania	14.50 to 15.00

ARCH BARS AND TRANSOMS

Chicago	23.00 to 23.50
St. Louis	19.50 to 20.00

Iron Steel Works Scrap

AXLE TURNINGS

Boston dealers	$9.50 to 10.00
Buffalo	14.50 to 15.00
Chicago	14.50 to 15.00
Cleveland	13.75 to 14.25
Eastern Pennsylvania	15.00
Pittsburgh	16.50 to 17.00
St. Louis	11.00 to 11.50

STEEL CAR AXLES

Birmingham	19.00 to 19.50
Boston (shipping point)	18.00 to 18.50
Buffalo	16.50 to 17.00
Chicago	19.50 to 20.00
Cleveland	17.50 to 18.00
Eastern Pennsylvania	24.00 to 25.00
Pittsburgh	22.50 to 23.00
St. Louis	20.00 to 20.50

SHAFTING

Boston (shipping point)	17.50 to 18.00
Chicago	19.75 to 20.25
Eastern Pennsylvania	22.00 to 23.00
New York (dealers)	17.50 to 18.00
St. Louis	17.25 to 17.75

Iron Foundry Scrap

CAR WHEELS

Birmingham, iron	$16.00 to 16.50
Boston (consumers)	17.50 to 18.00
Buffalo, iron	15.50 to 16.00
Bualo, steel	16.50 to 17.00
Chicago, iron	16.75 to 17.25
Chicago, steel	18.00 to 18.50
Cincinnati	12.50 to 13.00
Eastern Pennsylvania	18.00 to 18.50
New York iron (dealers)	14.50 to 15.00
Pittsburgh, iron	18.00 to 18.50
Pittsburgh, steel	19.50 to 20.00
St. Louis, iron	16.50 to 17.00
St. Louis steel	17.00 to 17.50

NO. 1 CAST SCRAP

Birmingham, cupola	17.00 to 18.00
Boston	19.00 to 19.50
Buffalo	15.50 to 16.00
Chicago, No. 1 machinery	18.75 to 19.25
Chicago No. 1 railroad or agricultural	18.00 to 18.50
Cincinnati No. 1 Machinery cupola (net tons dealers)	18.50 to 19.00
Cleveland, cupola	17.25 to 17.75
Detroit (net tons)	15.00 to 15.50
Eastern Pennsylvania, cupola	18.00 to 18.50
New York, cupola (dealers)	15.00 to 15.50
Pittsburgh, cupola	17.00 to 17.50
San Francisco, delivered	20.00 to 21.00
Seattle	17.00
St. Louis, railroad	16.50 to 17.00
St. Louis, agricultural	16.25 to 16.75
St. Louis, machinery	18.50 to 19.00
Valleys	17.50

HEAVY CAST

Boston	17.50 to 18.00
Buffalo (breakable)	14.50 to 15.00
Cleveland	13.00 to 13.25
Detroit (Automobile) (net tons)	20.00 to 20.50
Eastern Pennsylvania	16.50
New York (dealers)	14.00 to 14.50
Pittsburgh	14.00 to 14.50

MALLEABLE

Boston, railroad	19.50 to 20.00
Buffalo	18.00 to 18.50
Chicago, agricultural	16.50 to 17.00
Chicago, railroad	17.50 to 18.00
Cincinnati, railroad (dealers)	14.50 to 15.00
Cincinnati, agricultural (dealers)	18.00 to 18.50
Cleveland, agricultural	18.00 to 18.50
Cleveland, railroad	19.00 to 19.50
Detroit	15.50 to 16.00
Eastern Pennsylvania, railroad	17.00
Pittsburgh, railroad	18.50 to 19.00
St. Louis, agricultural	13.50 to 14.00
St. Louis, railroad	15.50 to 16.00

Miscellaneous Scrap

RAILS FOR ROLLING
5 feet and over

Birmingham	$15.00 to 16.00
Boston (dealers)	12.50 to 13.00
Buffalo	17.00 to 17.50
Chicago	16.50 to 17.00
Cleveland	17.00 to 17.25
Eastern Pennsylvania	17.50 to 18.00
New York	14.00 to 14.50
Pittsburgh district	19.00 to 19.50
St. Louis	16.25 to 16.75

LOCOMOTIVE TIRES

Chicago, No. 1	18.00 to 18.50
Chicago, cut	18.00 to 18.50
St. Louis, No. 1	16.50 to 17.00

LOW PHOSPHORUS PUNCHINGS

Chicago	17.25 to 17.75
Eastern Pennsylvania	19.00 to 20.00
Pittsburgh	20.00 to 20.50

Scrap

Little Change Shown in Prices With Some Declines—General Supply Is Heavy

HEAVY supplies of iron and steel scrap are becoming a burden and press heavily, being responsible in part for the present state of the market. In spite of this prices have yielded little and in some instances have had a small advance. About Pittsburgh heavy meiting steel is in more demand and better figures have been done. As a rule prices are nominal.

Chicago, March 9.—Iron and steel scrap is a shade heavier. Heavy melting steel is more active in dealer trading at $14 to $14.10 and one melter is placing small orders at $14.25. Demand for cast borings has eased up and some dealers believe the spread of $12 to $12.50 could be pared 25 cents. Dealers generally complain that in making even small sales buyers press for delivery and it is difficult to buy against these orders. Melting steel is left unchanged at $14 to $14.25, with the general tone of the market less buoyant than a week ago.

Boston, March 9.—Iron and steel scrap prices have further declined. The cast grades are especially weak. Several cars of No. 1 machinery sold in Connecticut at $18.75 delivered. Heavy melting steel is offered freely at $11.50 shipping point.

New York, March 9.—The scrap market is entering a deadlock. Demand continues slack, but prices have shown little change, indicating an attitude on the part of dealers not to attract business by offering concessions. Some activity is noted in railroad steel for Bethlehem at unchanged prices and in turnings for shipment to Phoenixville, Pa., and Harrisburg, Pa., dealers paying $13.50 delivered, and $13 delivered, respectively. The Jersey Central, Lehigh Valley and Lackawanna take bids this week on their regular monthly offerings.

Philadelphia, March 9.—An eastern mill which has been offering $13.50 delivered for bundled sheets and turnings has raised its price and bought a substantial tonnage at $14. Otherwise prices are unchanged. Several mills are taking considerable melting steel through dealers.

Buffalo, March 9.—Scrap is practically at a standstill. A consumer who formerly would pay $15 for heavy melting steel is out of the market and is using from his stock pile. No other consumer is in the market for new tonnage. Stove plate could be sold locally for $15 but none is to be had.

Pittsburgh, March 9.—The scrap market gives more activity than in several weeks. Several open-hearth furnace operators now are in the market. A southern Ohio user is offering $17.50, the same as a West Virginia buyer, but none can be found at that figure although several days ago a purchase involving several thousand tons was made at $17.50 by a Pittsburgh consumer. Another sale subsequently, to a point north of Pittsburgh, brought $18 and $18.25, and this week 2000 tons to another nearby point went at $18.50. The market therefore is quotable at $18 to $18.50 although a smaller lot of special open-hearth material 4 feet and under to a Verona, Pa., customer was sold at $18.75. The successful bid on the Pennsylvania railroad list's heavy melting steel was a trifle under $18.

Youngstown, O. March 9.—Despite reports of heavy purchasing of scrap by a Butler, Pa. concern scrap prices continue to sag with almost no demand by consumers who are well protected into second quarter.

Cleveland, March 9.—Strength appearing in the iron and steel scrap markets elsewhere is not reflected in this district. In fact greater weakness is in evidence because of the apathy of consumers. None is taking in new material of consequence, all apparently being well supplied or contracted for. Trading, such as exists, is confined to dealers and inquiries from melters are lacking.

Cincinnati, March 9.—Spot buying in iron and steel scrap is lacking, but dealers report a fair movement on contracts, particularly for cast grades. Owing to large tonnages offered by railroads and other producers, dealers' buying prices are nominal. Dealers are much concerned over the large railroad offerings.

Detroit, March 9.—No change is noted in the iron and steel scrap markets. Demand continues slow and only small quantities are moving. Dealers are buying cautiously and only for immediate orders. Large consumers evidence little interest in offerings and inquiries are few.

St. Louis, March 8.—Nothing has occurred to change the dull, weak status of iron and steel scrap. Purchases are on a hand-to-mouth basis, in small lots. Most mills are plentifully supplied for the rest of this quarter, and some for the next three months, and foundries are in similar case.

Birmingham, Ala., March 8.—Quotations for iron and steel scrap are unchanged. Much old material is moving in this district, mostly on contract. New business is light.

Sheets

Spot Buying Heavier But Second Quarter Contracting Slow —Prices Show More Firmness

EXPANSION in automobile demands is increasing sheet mill activity. Prices have been strengthening the Pittsburgh district and less shading of 3.35c on black now is heard. Galvanized prices are firmer and 4.60c generally is the minimum. Sheet mill operations now are about 80 per cent for the leading maker and 80 to 85 per cent for independents.

SHEET PRICES, PAGE 654

Pittsburgh, March 9.—Sheet demand has widened considerably, average daily orders since March 1 having been 20 per cent larger than for the same period in February. Some increase is due to expansion in buying by automotive interests whose spot demands are increasing considerably. Prices have been strengthening for the past three or four weeks, attributed mainly to increased demand. Sales made a month ago at low figures such as 3.15c on black, cannot now be duplicated. The lowest figure now quoted on that grade is $3.25c, obtainable from small mills needing business. Large tonnage sales have been made at the full market figure, 3.35c. Blue annealed sheets have remained strong at 2.50c, and one sale is noted at $1 per ton above that figure. There has been no price cutting in this grade for several weeks and since March 1 the daily average demand is above normal. Galvanized sheets are stronger and manufacturers representing possibly 85 per cent of the country's capacity will not shade 4.60c and from but one or two directions can 4.50c be obtained. Some purchases involving in excess of 1000 tons have been made from companies which a month ago lost the business because they would not shade 4.60c. Attractive orders are coming in for full finished automobile sheets at the 4.40c level. Sheet mill operations are improving, the leading maker being on approximately an 80 per cent basis with independents operating 80 to 85 per cent.

Youngstown, O., March 9.—The minimum price of 3.25c on black still is found in the sheet market but few mills are willing to accept business at this level. Larger producers are rigidly adhering to the 3.35c base for black and only from such mills that are hard pressed for tonnage is a lower quotation heard. A week ago in these

columns, due to a typographical error, 2.25c to 2.30c was given as the market on blue annealed. This range should have been 2.45c to 2.50c to conform to the correct prices quoted in that issue in the current rolled steel price table, page 590 and in the single price table on page 589. Larger makers are naming the maximum figure on all inquiry for this grade. Fully 90 per cent of galvanized placements are at 4.60c Pittsburgh. Full finished sheets are firm at 4.40c.

Boston, March 9.—Black sheet prices which have been weak are firmer. Second quarter contracts are being entered at 3.35c Pittsburgh. Galvanized sheets are in good demand with prices firm at 4.60c Pittsburgh.

Philadelphia, March 9.—Sheets have developed weakness but this was shortlived. The market again seems firm at 3.35c Pittsburgh on black, 2.50c on blue and 4.60c on galvanized. Some second quarter contracts have been entered on mill books but consumers are postponing action.

Buffalo, March 9.—Sheet business has improved within the past week and second quarter specifications are coming out in increased volume. While the price on black nominally remains at 3.35c Pittsburgh some reports are heard that 3.30c has been quoted on carloads. Operation locally continues at 80 per cent of mill capacity.

Chicago, March 9.—Western sheet mill schedules continue on a week-to-week basis but practically full operations govern. One maker, hampered by a shortage of semifinished material, may have to slow down his pace. Low consumer stocks are a factor for strength. Western makers say they are getting 4.75c, Chicago, for galvanized, 3.50c for black and 2.65c for blue annealed.

St. Louis, March 8.—Sheet buyers are more cautious and specifications also are small. Prices are firm, and with better weather the movement is expected to pick up. The leading local producer has reduced operations.

Tin Plate

Mill Position Improves With Steady Specifications—Operations High

TIN PLATE PRICES, PAGE 654

Pittsburgh, March 9.—With no interruptions to specifications but with increased calls for shipments, tin plate manufacturers are in a splendid position. Average operations are near 95 per cent of capacity and while in some cases only 90 per cent of the tin mills are working, the output represents 93 per cent of capacity. That this will continue until hot weather impedes is the general expectation since 1926 promises to be another heavy tin plate consuming year. The $5.50 open market figure holds firmly, and relatively high figures continue to be obtained for stock plate.

Philadelphia, March 9.—Several second quarter tin plate tonnages are pending here. Mills are firm in their quotations and it is believed $5.35 per base box is the lowest production figure named.

Strip Steel

Orders Show Improvement and From Diversified Sources

STRIP PRICES, PAGE 654

Pittsburgh, March 9.—Orders for hot and cold-rolled strip steel show decided improvement. If this sort of buying keeps up, February's tonnage deficit will soon be wiped out. Of encouragement is that demand continues diversified. While one Michigan automobile interest is not taking much tonnage yet, other automobile manufacturers are increasing orders day by day. Operations are from 75 to 85 per cent because some hot mills operate only five days weekly. Cold mills are operated six days weekly. Prices on hot are firm at 2.30c and on cold at 3.90c.

Philadelphia, March 9.—Several important consumers of hot strip have placed second quarter requirements at the full price, 2.30c and 2.50c, Pittsburgh. Cold strip is quiet.

Pipe

Line Pipe Activity Continues Heavy, Standard Oil Buying About 3000 Tons

AWARDING of 20,000 tons of 12-inch line pipe by Standard Oil Co. of New Jersey completes immediate buying of that interest. Humble Oil & Refining Co. has placed 8250 tons for a 110-mile line, and is reported about to buy for 72 miles additional. Cast pipe demand still is heavy. Inquiries continue numerous, 6000 tons being up on the Pacific Coast.

PIPE PRICES, PAGE 654 AND 690

Pittsburgh, March 9.—Tubular mills on an 85 per cent basis or better are receiving more orders for oil country goods, many of which are for stock. Oil companies are ordering direct and several 1000-ton orders are noted by large producers here. Line pipe backlogs are built up. Spring and summer are expected to see large tonnages of this type of business. The Humble Pipe Line Co., Houston, Tex., which is looping its pipe line east from Regan county, Tex., to its Comyn station connection, with its Grand Trunk line will put down a 72-mile line from the Piedras Pintas salt dome in Duval county, to Ingleside on Corpus Christi bay, taking 2500 to 3000 tons.

New York, March 9.—The Humble Oil & Refining Co. has placed 110 miles of 8-inch line pipe for its subsidiary the Humble Pipe Line Co., requiring about 8250 tons. Standard Oil Co. of New Jersey has placed about 20,000 tons of 12-inch pipe. This substantially completes the Standard Oil interests' program for pipe buying at this time.

Bids on approximately 7000 tons of water pipe, fittings and specialties for the local department of water supply, gas and electricity, reveal prices somewhat under the generally accepted market. Additional large tonnages still pending include 2500 tons for Baltimore, to be let through general contractors and 3000 tons for Saugerties, N. Y., on which bids are to be opened today.

San Francisco, March 5.—Pacific Gas & Electric Co., San Francisco, has awarded 1500 tons of 6⅝ to 16-inch pipe to an unnamed mill. The Associated Oil Co. has awarded 210 tons of 8-inch pipe to an unnamed mill.

Chicago, March 9.—Considerable cast iron pipe business in the Central West is being closed quietly and with most makers bookings about equal shipments. Municipal programs are shaping up a trifle under those of last year. Demand for pipe in Chicago suburbs is heavier. The South Park commission, Chicago, is considering bids on 750 tons while the National Cast Iron Pipe Co. is low bidder on 250 tons at Little Chute, Wis. On pipe 6-inch and over the range is $41 to $42, Birmingham, or $49.20 to $50.20, Chicago, but when a maker desires a particular size he dips under this range. Four-inch pipe is quoted at $53.20 to $54.20, Chicago.

Birmingham, Ala., March 8.—New lettings add materially to the orders in hand for cast iron, pressure pipe, and the several plants here will go into the second quarter with capacity production required. Shading of 6-inch and over pipe down to $40 per ton still is prevalent.

CONTRACTS PLACED

700 to 800 tons, 6 to 20-inch centrifugal pipe for Bellingham, Wash., to United States Cast Iron Pipe & Foundry Co.

480 tons, St. Paul, to American Cast Iron Pipe Co.

250 tons, Mundelein, Ill., to United States Cast Iron Pipe & Foundry Co.

142 tons, 4 and 6-inch class B pipe for North Sacramento Light & Power Co., Sacramento, Calif., to B. Nicoll & Co. for French pipe.

100 tons, 10 to 24-inch class A and C pipe and fittings, Wenatchee, Wash., to United States Cast Iron Pipe & Foundry Co.

100 tons, 4 and 6-inch class B pipe for Redwood City, Calif., to Grinnell Co. of the Pacific for Belgian pipe.

600 tons, gas pipe, for the Queens Gas & Electric Co., New York, to the United States Cast Iron Pipe & Foundry Co.

CONTRACTS PENDING

6335 tons, water pipe and fittings, and 600 tons of manhole covers for the department of

water supply, gas and electricity, New York; low bidders as follows: Warren Foundry & Pipe Co., 2500 tons of 8 to 12-inch pipe and fittings, for section 2410 at $51.60, delivered, on the pipe and $126 on the fittings; Donaldson Iron Works, 1100 tons of 8-inch for section 2410 at $52 delivered; and on 235 tons of fittings for section 2411, $127; this maker also is low on 600 tons of manhole covers; R. D. Wood & Co., low on 2500 tons of 6 and 8-inch pipe for section 2411, at $51.40.

6100 feet, 12-inch class C or DeLavaud centrifugal pipe, Manitowoc, Wis., bids close March 11.

200 tons, water pipe, Morristown, N. J., B. Nicoll & Co., representing French makers, low at $47 a ton. Muller & Son, representing German makers, were next low bidders and R. D. Wood & Son, third.

300 tons, water pipe for the department of water supply, gas and electricity, New York; general contractors' bids to close March 12.

3000 tons, mostly 6-inch pipe, for Saugerties, N. Y., bids closed March 9.

3500 tons, Laguna Beach, Calif.; B. Nicoll & Co. low bidders.

3500 tons, 24-inch class B pipe for Santa Monica, Calif.; bids in.

2000 tons, Duluth; bids in.

1500 tons, pipe line at Medford, Oreg.; pending.

1000 tons, Youngstown, O.; bids in.

250 tons, Little Chute, Wis.; National Cast Iron Pipe Co. low bidder.

Tonnage unstated, 31,000 feet 12-inch, and 22,000 feet 10-inch, for Opelika, Ala.; bids in March 11.

Tonnage unstated, 18,000 feet 4-inch and 20,000 feet 8-inch, for Perry, Fla.; bids in March 16.

Tonnage unstated, 43,600 feet 1¼, 6 and 8-inch pipe for Inverness, Fla.; bids in March 12.

Tonnage unstated, 25,000 feet 6 to 12-inch, 11,300 feet 6 to 10-inch, cast pipe for Washington; bids in March 26.

Bolts, Nuts, Rivets

Lighter Specifications Reflex from Heavy Demand Earlier

NUT AND BOLT PRICES, PAGE 654

Chicago, March 9.—Heavy specifying of bolts and nuts in February has had a reflex in lighter specifications thus far in March. Consumers apparently took out a greater part of their first quarter material in the opening 60 days. The automotive industry gives indications of increased demand. Works operations are at an average of 70 to 75 per cent.

Iron Ore

Iron Ore Prices for 1926 Not Yet Determined

Cleveland, March 9.—Reports emanating largely from Duluth that sales of Lake Superior iron ore have been made at an advance of 25 cents apparently are inaccurate or premature. Leading ore operators in Cleveland state no sales of any kind yet have been made to their knowledge which would tend to establish the open market. They do not expect any definite developments for two or three weeks. The inquiry from the Ford Motor Co. for a considerable tonnage still is pending. There has been considerable talk in the market during the past several weeks as previously reported by IRON TRADE REVIEW, that an advance of 25 cents might be finally determined.

Bars

Prices Are Firmer and Demand Holds Well—Mills Are Pressed for Deliveries

DIVERSITY and volume of demand for soft steel bars is unabated and has become more intense in some cases. Mills find increasing difficulty in meeting delivery requirements. Prices for second quarter are firm at former levels and some low-price arrangements are being discontinued. Mills find orders piling up faster than production can balance.

BAR PRICES, PAGE 654

Chicago, March 9.—Soft steel bar market has closed another week of steady improvement. No one class of users has spurted, but almost all consumers are buying and specifying slightly more heavily. Specifications exceed shipments by a good margin. New business is running slightly ahead of shipments. All producers say they are entering a period when the satisfying of all demands will be more difficult, and more open-hearth capacity has been put on. Plates and shapes have been making a greater stir than bars. The market appears firm at 2.10c, Chicago, and less Pittsburgh district competition is encountered. The leading independent has opened its books for second quarter on the basis of 2.10c, Chicago.

One Chicago Heights rail steel bar mill is on double turn and has business into April at this gait. Fence post demand holds up unusually well. Railroad specifications for bar iron have improved considerably. Rail steel and bar iron are quoted at 2.00c, Chicago.

Boston, March 9.—A 25 per cent improvement in bar specifications is reported at Boston. The 2.00c Pittsburgh price is still in effect despite a firmer tendency.

Buffalo, March 8.—Bar specifications for second quarter shipment are coming out a little more freely. The price situation is firm, sellers quoting 2.265c, Buffalo.

Pittsburgh, March 9.—A start has been made on second quarter contracts for merchant steel bars. Some smaller users cannot obtain better than 2.10c and others even among preferential customers are now paying 2.00c. It is becoming increasingly difficult to continue 1.90c arrangements. Deliveries in some cases are eight weeks deferred and bar mills are operating full. Specifications in some cases are 50 per cent greater than in February to the same date.

Refined iron bar demand continues to show some improvement as to deversity and tonnage. Prices are firm starting at 3.50c.

Cleveland, March 9.—Demand for steel bars from consumers affiliated with the automobile industry continues to grow and new inquiry is reported to be heavier. Not much second quarter buying is being done but users are coming out for tonnage frequently as they need it and do not feel much necessity for buying ahead. The Willys-Overland Co. is swinging into the production of 1500 cars daily, a record rate. Prices show stability at 2.19c Cleveland or 2.00c, Pittsburgh and are $2 higher for smaller lots. Variations from these figures are not important.

Hoops and Bands

Operations Unchanged and Demand Increases Steadily

HOOP PRICES, PAGE 654

Pittsburgh, March 9.—Some hoop and band mills are operating full, others only five days weekly, but demand steadily improves as automotive consumption expands. Hurry calls are being received in greater number from automobile manufacturers other than the Ford Motor Co., and various other consuming lines are increasing specifications. Makers encounter no deviation from 2.50c.

Cold Finished Steel

Buying Is Better and Specifications Exceed Last Month

Pittsburgh, March 9.—Consumers needs in cold-finished bars are increasing slightly and if the present rate of buying keeps up through the month, the total tonnage will far exceed February's. Specifications to date exceed the same period a month ago, attributed generally to increased tonnage for automotive interests. The price still is 2.50c. Buyers are not anticipating far but spot needs are larger. Average operations vary 80 to 85 per cent.

Will Improve Plant

Extensive repairs, including the construction of a central gas house and the electrification of the 8 and 10-inch hoop mills, will be made to the Sharon Steel Hoop Co. plant at Sharon, Pa., within the next few months. Changes, making it possible to tap 100-ton heats instead of 90-ton, will be made to the open-hearth furnaces. The repairs will cost approximately $500,000. Minor improvements also are to be made to the Lowellville, O., plant.

Structural Shapes

Railroad Bridgework More Active—Awards and Inquiries Numerous But Spring Programs Are Slow in Developing

MORE general activity on the part of railroads in bridgework requirements is adding to structural demands. Unconfirmed reports at Chicago credit four western roads with a total of 30,000 tons for this purpose. Spring building programs are slow in developing but total inquiry appearing is gaining in volume. Award of 9500 tons for a building in San Francisco and 2780 tons of Louisville & Nashville bridgework features current contracts. Awards during the past two weeks have been above the average of the past several months.

Plain material prices continue firm at 1.90c, Pittsburgh, in most districts with leading makers quoting 2.00c for second quarter delivery. Fabricated prices continue spotty and weak.

STRUCTURAL SHAPE PRICES, PAGE 654

Chicago, March 9.—The structural market is beginning to feel the impetus of railroad bridge requirements. Programs of the western roads are becoming better defined and over the next 30 days good tonnages are expected. The report that the Santa Fe, Burlington, Rock Island and Illinois Central are about to place upward of 30,000 tons in the aggregate lacks confirmation. University of Chicago stadium, requiring 3500 tons, and the Harmon arena, taking an even greater tonnage, are expected to be closed shortly. Pending work is increasing as more favorable building weather develops. Chicago building permits in the opening two months totaled $43,426,000, second only to the $48,228.000 in the same period of last year. Competition for structural work continues extremely sharp. Plain material is quoted at 2.10c, Chicago.

Boston, March 9.—Building still holds off in New England and the structural shape market is dull. Warehouse buying shows a slight increase. Prices are firm at 1.90c Pittsburgh or 2.265c delivered.

New York, March 9.—Structural activity is showing a little more life, with the award of 2800-ton loft and inquiries for 3000-ton viaduct and a 2800-ton loft outstanding. Fabricated and plain material prices are steady the latter around 1.90c, Pittsburgh.

Philadelphia, March 9.—Structural orders are exceeding shipments. Deliveries on some sizes which were three weeks, now are extended to four or five weeks. Prices are firmer on plain material with 1.85c to 2.00c Pittsburgh and 1.90c to 2.05c eastern mill being quoted.

Buffalo, March 9.—Shape inquiry is improving. One thousand tons or more will be required in the building and craneways of the new Great Lakes Cement Co. plant here. Some other fair sized jobs are nearing contract stage. Prices are steady.

Pittsburgh, March 9.—Structural shape fabricators report award of a large number of small projects. Bids on material fabricated and erected still evidence keen competition although on plain material the 1.90c figure is not so prevalent and 2.00c is more often quoted, particularly on second quarter contracts.

Cincinnati, March 9.—Impetus has been given the structural market in this district by the award of 2780 tons by the Louisville & Nashville railroad among a number of fabricators. The American Bridge Co., received 1300 tons, McClintic-Marshall Co., 900 tons; Virginia Bridge & Iron Co., 300 tons and the Louisville bridge Co., 90 tons. Inquiry is heavier and plain material prices slightly stronger.

Cleveland, March 9.—Structural steel fabricators in this district are awaiting expected activity in the market now that the Union terminals tonnage has been awarded. Large pending work is slow in developing but the aggregate of small lots is high. Plain material prices are firm at 1.90c, Pittsburgh, with some 2.00c reported on small tonnages. Prices on material fabricated and delivered seem without bottom, the range of bids being from $10 to $15 a ton apart.

Awards Compared

	Tons
Awards this week	55,933
Awards last week	43,960
Awards two weeks ago	33,771
Awards this week in 1925	23,104
Average weekly awards, Feb.	25,203
Average weekly awards, 1926	25,640
Total awards to date, 1925	380,748
Total awards to date, 1926	286,693

CONTRACTS PLACED

9500 tons, Russ building, San Francisco, to United States Steel Products Co.

8,090 tons, involved in the following 13 projects:

Loft for the 230 West Thirty-ninth Street Corp., 230 West Thirty-ninth street, New York, to the Paterson Bridge Works.

Apartment for the 319 West Forty-eighth Street Corp., 319 West Forty-eighth street, New York, to the Paterson Bridge Works.

Garage alterations, 120 West Fifty-second street, New York, to the Hedden Iron Construction Co.

Distributing station for the New York Edison Co., East 172nd street and Boston road, New York, to the Hedden Iron Construction Co.

Factory building for the National Sugar Refining Co. of New Jersey, Yonkers, N. Y., to the Hedden Iron Construction Co.

16-story apartment for Walton Hall Inc., 325 East Seventy-second street, New York, to the Taylor-Fichter Steel Construction Co.

15-story apartment hotel, 127-39 West Seventy-ninth street, New York, to the Taylor-Fichter Steel Construction Co.

Harlem hospital, New York, to the Shoemaker Bridge Co.

Nurses home, Fordham hospital, New York, to the Shoemaker Bridge Co.

Apartment house Sixty-seventh and Madison avenue, New York, to the McClintic-Marshall Co.

Distributing station for the New York Edison Co., East Thirty-second street, New York, to McClintic-Marshall Co.

Bank for the Glen Cove Trust Co., Glen Cove, Long Island, to the McClintic-Marshall Co.

18-story loft for Arthur Brisbane, 20-22 East Fifty-seventh street, New York, to the Harris Structural Steel Co.

6000 tons, Canal & Commercial Bank building, New Orleans, to the McClintic-Marshall Co.

2900 tons, addition to Roanoke building, Chicago, to American Bridge Co.; Holabird & Roche, 104 South Michigan avenue, Chicago, architect.

2800 tons, loft Fifth avenue and Twenty-eighth street, New York, to the Taylor-Fichter Steel Construction Co.

2780 tons, bridgework for Louisville & Nashville railroad, 1300 tons to American Bridge Co., 900 tons to McClintic-Marshall Co., 300 tons to Virginia Bridge & Iron Co. and 90 tons to Louisville Bridge Co.

2000 tons, buildings for Ford Motor Co., Detroit, to Milwaukee Bridge Co.

1500 tons, miscellaneous fabricating works, to Vierling Steel Works.

1500 tons, highway bridge over Columbia river, Vantage Ferry, Wash., through Booth & Pomeroy, Portland, Oreg., to American Bridge Co.

1200 tons, subway section 8, route 78, New York, to the American Bridge Co.

1200 tons, railroad bridges for Chicago, Burlington & Quincy, to American Bridge Co.

1100 tons, miscellaneous fabricating work, to Minneapolis Steel & Machinery Co.

1050 tons, bridge at Eagle Pass, Tex., to Missouri Valley Bridge & Iron Co.

1000 tons, Hollenden hotel annex, Cleveland, to Forest City Structural Steel Co.

1000 tons, waterpower plant, Ohio Edison Co., Springfield, O., subsidiary of the Commonwealth Power Corp., Jackson, Mich., to Bellefontaine Bridge & Steel Co.

1000 tons, miscellaneous fabricating work, to Worden-Allen Co.

900 tons, Fountain theater building, Cincinnati, to J. E. Moss Iron Works.

775 tons, apartment, West Ninety-sixth street, for the 1861 University Avenue Corp., New York, to the Drier Iron Works.

750 tons, plant for Electric Auto Light Co., Toledo, O., to unnamed fabricator.

750 tons, Burnside shops of Illinois Central railroad, at Chicago, to Continental Bridge Co.

675 tons, addition to the United States Aluminum Co.'s plant at Massena, N. Y., to the American Bridge Co.

525 tons, Hale Bros. addition, San Francisco, to Western Iron Works.

500 tons, station at Jackson, Miss., for Illinois Central railroad, to Stupp Bros. Bridge & Iron Co.

500 tons, 15-story apartment in West Fifty-eighth street, New York, to the Easton Structural Steel Co.

425 tons, vault grillage for Union Trust Co., Chicago, through J. B. French Co., to American Bridge Co.

400 tons, Sesquicentennial celebration building, Philadelphia, to Shoemaker Bridge Co.

400 tons, building for the National Radiator Co., New Castle, Pa., to the Austin Co.
350 tons, Columbus road viaduct, Union terminals project, Cleveland, to McClintic-Marshall Co.
350 tons, substructure for La Salle street bridge, Chicago, through Strobel Steel Construction Co., to American Bridge Co.
325 tons, mill for Minnesota & Ontario Paper Co., International Falls, Minn., to Minneapolis Steel & Machinery Co.
310 tons, Estuary bridge, Oakland, Calif., to Moore Drydock Co.
300 tons, school of aeronautics, New York university, New York, to the Hinkle Iron Works.
278 tons, American Soda Fountain Co. building, Boston, to Boston Bridge Works Inc.
250 tons, high school, Concord, N. H., to Eastern Bridge & Structural Co.
250 tons, apartment on Mott avenue, New York, to the Easton Structural Steel Co.
225 tons, fabricating shop at Gary, Ind., for Walter Bates Steel Corp., to American Bridge Co.
200 tons, apartment, Pacific and Webster streets, San Francisco, to Dyer Bros. Golden West Iron Works.
200 tons, building for the Standard Steel Specialty Co., College Hill, Pa., to the Pittsburgh Bridge & Iron Works.
200 tons, platform extensions for the Brooklyn-Manhattan Transit Co., Brooklyn, to the American Bridge Co.
200 tons, addition to American Radiator Co. plant at Buffalo, to Kellogg Structural Steel Co.
190 tons, Mack garage, Worcester, Mass., to Eastern Bridge & Structural Co.
170 tons, Siletz river bridge, Oregon, general contract to Union Bridge Co., steel to unknown mill.
165 tons, elementary school, Boston, to Boston Bridge Works Inc.
150 tons, Rock Island railroad bridges at South Chicago, Ill., to American Bridge Co.
125 tons, telephone building, Inglewood, Calif., to Llewellyn Iron Works.
125 tons, Lever Bros. plant extension, Cambridge, Mass., to independent fabricator.
100 tons, kiln car frames, Hanley Ceramics Co., Bradford, Pa., to the Jones & Laughlin Steel Corp.

CONTRACTS PENDING

3500 tons, University of Chicago stadium, Chicago; American Bridge Co. low bidder.
3000 tons, viaduct for New York Central, New York; pending.
2800 tons, 20-story loft for Joseph Sleigel, 141-154 West Thirtieth street, New York; bids asked.
2500 to 4000 tons, 4 or 8-story annex for Halle Bros. store, Cleveland; alternate bids being taken.
2000 tons, bridge at Memphis, Tenn; pending.
2000 tons, smelter building at Douglas, Ariz.; pending.
1500 tons, Midland Realty & Theater building, Kansas City, Mo.; pending.
1500 tons, addition to the General Forbes hotel, Pittsburgh; bids close March 11.
1000 tons, or more, for Great Lakes Cement Corp. plant, Buffalo; pending.
900 tons, bridge for the Western Maryland railroad in West Virginia; pending.
700 tons, third unit Milwaukee Central continuation school; Worden-Allen Co., low bidder.
700 tons, building for the *Post Standard*, Syracuse, N. Y.; pending.
625 tons, St. Johns college high school, Brooklyn, N. Y.; pending. This project was mentioned last week as involving an unnamed tonnage.
600 tons, bridge work for Missouri Pacific railroad; pending.
500 tons, McCreery Store Corp., Philadelphia; pending.
410 tons, armory roof, San Francisco; bids in March 29.
400 tons, department store, Ithaca, N. Y.; bids asked.
300 tons, Mary Immacculate hospital, Jamaica, Long Island, N. Y.; Thomas O'Riley general contractor.
300 tons, New York Central bridge in Western New York state; pending.
300 tons, 7-story Luckman building, Jamaica, L. I.; bids asked.
270 tons, parish house for St. Marks Methodist church, New York; pending.
250 tons, plant for Robert Gair Co., Brooklyn, N. Y.; pending.
200 tons, New York Central bridge in Chicago; pending.
Tonnage unstated, group of buildings for Keystone Varnish Co., Newark, N. J.; Public Service Production Corp. general contractor.
Tonnage unstated, building to be erected on the site of the Hotel Anderson, Pittsburgh; bids about to be asked.
Tonnage unstated, theater and office building, Seventh and Penn avenues, Pittsburgh; bids about to be asked.
Tonnage unstated, Penn hotel, Pittsburgh; bids about to be asked.

More Fluorspar Sales

New York, March 9.—Substantial tonnages of foreign fluorspar, principally from German importation, continue to be sold at prices ranging from $17.50 to $18, duty paid per net ton for 85 and 5 per cent grade.

Work Wrench Mfg. Co., Chicago, has increased capital from 200 shares to 1000 shares no par value.

Concrete Bars

Larger Inquiries Are Appearing But Buying Still Lags—Prices Steady

SLOWNESS of spring building programs in developing, due to weather conditions is hindering concrete activity. Larger projects are appearing but momentum is lacking. Opening of weather is expected to see a heavy roadbuilding program launched. Prices continue firm with $2 a ton increase being mentioned for second quarter.

REINFORCING BAR PRICES, PAGE 654

Pittsburgh, March 9.—Large projects in the Pittsburgh area involving concrete bars are held in abeyance although good buying is expected for the spring. Small awards involving 18 to 20 tons apiece are fairly plentiful. New billet steel concrete bars are steady at 2.00c Pittsburgh, with 2.10c being mentioned as the second quarter quotation.

Boston, March 9.—The year is running far below expectations in concrete bar sales throughout New England. A close student who estimated last year's average at 1000 tons a week, places the total business to date this year at not much over 300 tons. The state of Massachusetts expects to use 2000 tons during the year in roadwork. The Boston warehouse price is unchanged at 3.00c.

Buffalo, March 9.—Reinforcing bar inquiry is beginning to pick up. A 1000-ton lot will be required for a new cement plant here. Lots of 50 and 100 tons are more numerous. New billet bars are steady at 2.265c for mill shipment and 2.75c for stock lots.

Cleveland, March 9.—Awards of concrete bars in this territory are confined to small tonnages now that the current needs of the Union terminals have been met. Although 2.00c Pittsburgh seems to be the minimum on new billet bars and the Cleveland spread 2.19c to 2.30c, lower prices are rumored. Rail steel is steady at 1.80c to 1.90c, with the average tonnage going at 1.85c, mill. Stock bars are figured from 2.40c Youngstown to 3.10c Cleveland.

Awards Compared

	Tons
Awards this week	2,975
Awards last week	8,690
Awards two weeks ago	3,218
Awards this week in 1925	2,265
Average weekly awards, Feb.	4,109
Average weekly awards, 1926	4,721
Total awards to date, 1925	74,937
Total awards to date, 1926	45,468

CONTRACTS PLACED

800 tons, buildings for Harvard school of business, Boston, to Edward A. Tucker Co. through Hageman-Harris Co., New York, general contractor.
800 tons, waterpower plant, Ohio Edison Co., Springfield, O., subsidiary of the Commonwealth Power Corp., Jackson, Mich., to Bethlehem Steel Co.
220 tons, Masonic home, Zenith, Wash., to Pacific Coast Steel Co.
200 tons, building for Central Wholesale Grocery Co., Chicago, to Barton Spider-Web System.
150 tons, highway bridges for Tennessee, to Concrete Engineering Co.
145 tons, nurses home for St. Vincent's hospital, Indianapolis, to Concrete Engineering Co.
135 tons, Fitch garage, Youngstown, to Truscon Steel Co.
125 tons, Paul Finley apartment, Evanston, Ill., to Calumet Steel Co.
100 tons, high school, Wellsville, N. Y., to unstated Buffalo fabricator.
100 tons, Parker house, Boston, to Concrete Steel Co.
100 tons, Salada Tea Co. building, Boston, to Concrete Steel Co.
100 tons, Ansel road apartment, Cleveland, through Conant Construction Co. general contractor, to Paterson-Leitch Co.

CONTRACTS PENDING

1000 tons, Great Lakes Cement Corp. plant, Buffalo; contract pending.
800 tons, Seventh street viaduct, Los Angeles; pending.
600 tons, Sunset tunnel, San Francisco; pending.
500 to 750 tons, apartment house, Fifth avenue, Pittsburgh; Boyle & Robertson, Washington, Pa., general contractors.
250 tons, bridge over Santa Maria river, California; pending.
100 tons, Wayne school, Erie, Pa.; Continental Construction Co., Erie, general contractor.
Tonnage unstated, 25 reinforced concrete highway bridges for Tennessee; bids in March 12 by state highway department, Nashville, Tenn.

Rails, Cars

Locomotive Activity Features Railroad Market—Cars Active —Ford Buys More Belgian Rails

AWARD of 113 locomotives by Southern railway, 30 by Southern Pacific and 23 by Florida East Coast comprise the feature of the current equipment market. This is the heaviest week's activity in many months. Pennsylvania is seeking 2000 auto cars, 258 miscellaneous coaches and 200 locomotives. Ford interests closed about 10,000 tons additional in Belgian rails.

RAILROAD TRACK MATERIAL PRICES, PAGE 654

New York, March 9.—It is learned here that a second rail order has been placed by the Ford Motor Co. interests with Belgian makers. The size of the award has not been announced but it may be around 10,000 tons. The rails are for the Detroit, Toledo & Ironton railroad.

A portion of the Japanese rail inquiry reported last week has been placed. Mitsui & Co. booked the 25 miles of 75-pound rails, involving 2950 tons, for the Osaka Lenki Kido, and placed the tonnage with German makers. Iwai & Co. booked about 1500 tons for the municipality of Tokio, embracing eight miles of 7-inch high T-rails and two miles of guard rails. It placed the T-rails with European makers and the guard rails with the United States Steel Products Co. The South Manchurian railways are expected next month to come into the market for a tonnage of rails for one of the branch lines.

Eastern railroad equipment demand is featured by a tentative inquiry from the Pennsylvania railroad for 200 locomotives, 2000 automobile cars and 258 miscellaneous coaches, including 20 electric coaches. The user expects to build an additional 100 locomotives at its Altoona, Pa., shop. Another important development is the purchase of 113 locomotives by the Southern railway.

Domestic freight car awards for February showed a decided gain, totaling 12,895 cars, as compared with 8830 in January. Of the February total 5041 were for the Pacific Fruit Express; 3400 for the Seaboard Air Line and 2350 for the Illinois Central. A comparative statement follows:

February	12,895
January, 1926	8,830
December	16,885
November	11,685
October	11,145
September	7,905
August	2,875
July	800
June	1,835
May	6,985
April	5,060
March	4,730
February	5,510
January, 1925	1,695
1923 total	103,487
1924 total	144,425
1925 total	77,110

Boston, March 9.—Railroad buying is active in New England. Boston Elevated railway placed frog and switch material valued at from $10,000 to $15,000, and is in the market for 100 all-steel car bodies. Boston & Maine is buying track fastenings and miscellaneous material for a classification yard at Lowell Junction, Mass., also material for a coke reclamation plant at East Somerville, Mass. This road has not yet placed its rail requirements for 1926 estimated at 16,000 tons.

Pittsburgh, March 9.—Orders for light rails are somewhat disappointing since it was expected that the anthracite strike settlement would be followed by extensive buying in larger tonnages. The price still is $35.

Track accessory demand is spasmodic, all buying being on a hand-to-mouth basis. No second quarter business is developing. Prices are firm, 2.80c on standard spikes, 3.00c on carload lots of small spikes, and 2.35c on tie plates.

Chicago, March 9.—Track fastening demand continues heavy, one maker having booked 20,000 kegs of spikes and bolts, 8000 tons of angle bars and 2500 tons of tie plates. Western carriers apparently are entering upon their spring track programs with stocks of both rails and fastenings inadequate.

Pullman Car & Mfg. Corp. has been awarded the 1100 box cars for which the Southern Pacific has been inquiring, and the Pressed Steel Car Co. the 500 gondolas. Pressure upon the mills for shipment of car steel has been increased greatly. One maker estimates that with specifications recently placed and scheduled to come out this week car builders will be wanting 100,000 tons of heavy steel, plus 42,000 axles. Pacific Fruit Express placed 6500 tons of car axles with an eastern manufacturer.

ORDERS PLACED

Southern railway, 2850 cars, 1600 box cars, to Mt. Vernon Car Mfg. Co., 1000 hoppers to Tennessee Coal, Iron & Railroad Co. and 250 ballast cars, to General American Car Co.

Union Refrigerator Transit Co., Milwaukee, 500 refrigerators cars, 400 to American Car & Foundry Co. and 100 to be built by the Union company's shops at Milwaukee.

Southern Pacific, 1600 freight cars, 1100 box cars, 28 baggage cars and 10 coaches to Pullman Car & Mfg. Corp., 500 gondolas to Pressed Steel Car Co. and 6 passenger-baggage cars to Standard Steel Car Co.

Nashville, Chattanooga & St. Louis, 300 freight cars, 125 hopper cars, 100 ballast cars, 75 flat cars and 4 baggage cars, to American Car & Foundry Co.

LOCOMOTIVE ORDERS PLACED

Florida East Coast, 23 locomotives, to the American Locomotive Co.

Silver Falls Lumber Co., one locomotive, to the Baldwin Locomotive Works.

Fairport, Painesville & Eastern, one switch engine, to the Baldwin Locomotive Works.

Southern Pacific, 30, 23 to the American Locomotive Co., and 7 to Baldwin Locomotive Works.

Cia del F. C. de Cundin America, Colombia, two locomotives, to the Baldwin Locomotive Works.

Southern Railway, 113 locomotives, of which 84 went to the American Locomotive Co.; 22, all switch engines, to the Lima Locomotive Works, Inc., and seven to the Baldwin Locomotive Works.

Akron, Canton & Youngstown, two switch engines, to the Lima Locomotive Works, Inc.

(*Concluded on Page* 669)

Wire

Jobbers Buy Little But Manufacturers Do Better—Operations Steady

WHILE manufacturers are taking larger tonnages of wire for their operations, jobbers are not covering second quarter and apparently are trying to continue with low stocks for the present. Prices are being held steady and operations are not materially changed. Farm demand is being felt and one maker of poultry netting is unable to meet needs of his customers.

WIRE PRICES, PAGE 654

Chicago, March 9.—Jobbers still lag in placing spring wire and nail requirements but manufacturing lines are moving a shade faster. Some strictly seasonal products display activity and in poultry netting one maker is unable to meet the demand. Automobile manufacturers are taking more wire than a month ago. Makers are taking second quarter business on the basis of 2.55c, Chicago or western mill, for plain wire and 2.70c for wire nails.

Boston, March 9.—Wire and nail demand from jobbers is brisk. The price is unchanged at 2.65c Worcester for plain wire.

Pittsburgh, March 9.—Wire products demand shows improvement and producers are encouraged over expanding jobber demand for mixed carloads. Plain wire specifications from manufacturers are increasing somewhat but so far not much has developed concerning second quarter contracts. Wire mill operations average 65 to 70 per cent. A careful survey reveals no diversion from the quoted market bases, 2.50c for plain wire and 2.65c for wire nails.

Nonferrous Metals

Market Uneasiness, Caused by Break in Stocks, Gives Way to Firmer Undertone—Price Support Is Entirely Domestic

Prices of the Week, Cents a Pound

		Copper			Spot	Lead	Lead					
		Electro delivered	Lake delivered	Casting refinery	Straits Tin, N. Y.	New York	East St. Louis	Zinc St. Louis	98-99% Aluminum	Spot Antimony	Ingot Nickel
Mar.	3	14.12½	14.30	13.50	63.50	8.75	8.50	7.37½	27.00	20.12½	35.00
Mar.	4	14.12½	14.30	13.55	63.75	8.75	8.50	7.40	27.00	20.12½	35.00
Mar.	5	14.20	14.35	13.60	64.00	8.75	8.47½	7.47½	27.00	20.00	35.00
Mar.	8	14.25	14.37½	13.55	63.75	8.75	8.47½	7.50	27.00	19.75	35.00
Mar.	9	14.20	14.37½	13.55	63.87½	8.60	8.30	7.42½	27.00	19.75	35.00

NEW YORK, March 9.—Falling security prices held up buying of nonferrous metals for a few days and caused easiness in prices, but it soon became apparent that the stock market was fluctuating far more than business, so metals became firm even before stocks. In the past day or two this firmness has taken the form of a recovery in prices of zinc and copper, with tin bobbing around but generally showing a strong undertone. Aluminum and nickel are steady, while lead and antimony continue easy. European markets still lack life, so that such support as the metal markets get is almost entirely domestic at present.

Zinc—The price of the coating metal has run all over the map lately, with apparently not much explanation for swings being so wide. Sales have remained comparatively light even in the upswings, but shipments still are of good size though not as large as in midwinter. Output still is unusually large with the result that stocks have increased, and some smelters evidently have felt the weight of stocks so that yielding to the market was easy. At the same time several other smelters have been practically out of the market a good share of the time, well booked for this month, so that not a great deal of buying has been needed to cause firmness. Alternate buying and selling of some dealers also has been a factor of ready influence in a sensitive market.

Copper—Buying at times is quiet and then a little more active, so that at the end of each week or each month it is found total sales run to a good figure. The metal keeps moving in a big tonnage and output and use appear fairly well balanced. Slack export trade probably is causing a slight accumulation of stocks but the latter still are light as compared with a year ago. Brass and wire mills are busy, especially those operating primarily on pure copper, while in some instances brass mills are slack. Tubing mills are busy. Prices of mill products have been unchanged lately except a few cuts in copper wire of various kinds. Ingot copper shows strength.

Tin—Supplies on hand here are of good size and the premium on nearby is not quite so bullish, but nearly all this metal was sold into consumption before arrival, so that there still is a wide spread between spot and futures. March arrival is only slightly under spot and May approximately one cent under. Supplies in the Orient and on the way are light, so that big consumption keeps the market in a strong position.

Lead—Supplies of the heavy metal are plentiful, especially on account of a slow market abroad, while buying here has been quiet. Prices have fallen gradually.

Aluminum—Prices are steady and the same might be said of shipments. The market is lacking in snap.

Abandons Edith Furnace

The Edith blast furnace, owned by the American Steel & Wire Co., and located at Pittsburgh, has been abandoned and will be dismantled soon. This furnace has been under lease to the Carnegie Steel Co. and was returned to the owner last January. It has not been active for several years. Edith furnace was built in 1898 and had an annual capacity of 136,100 tons of bessemer pig iron.

Mill Products

Base prices cents per pound, f.o.b. mill

SHEETS	
High brass	19.12½
Copper, hot rolled	22.75
Zinc, ga. 9 to 17	12.00
Lead full sheets (cut ¼c more)	12.75 to 13.25
Aluminum, bright flat, up to 10 gage	37.50
SEAMLESS TUBES	
High brass	23.75
Copper	24.50
RODS	
High brass (round ⅝ to 2½-inch)	16.87½
Naval brass	19.62½
WIRE	
Copper	16.25
High brass	19.62½

Old Metals

Dealers' buying prices, cents per pound

HEAVY RED BRASS	
New York	8.75
Chicago	9.50
Cleveland	9.00 to 9.25
HEAVY YELLOW BRASS	
New York	7.25
Chicago	8.25
Cleveland	6.50 to 6.75
ZINC	
New York	4.50
Cleveland	4.50 to 4.75
HEAVY COPPER AND WIRE	
New York	11.75
Chicago	11.50
Cleveland	10.75 to 11.00
RED BRASS BORINGS	
New York	8.25
YELLOW BRASS TUBING	
Cleveland	6.75 to 7.00
LIGHT COPPER	
New York	9.50
Chicago	9.75
Cleveland	9.50 to 9.75
LIGHT BRASS	
Chicago	7.50
Cleveland	6.00 to 6.25
ALUMINUM	
Borings, Cleveland	13.00 to 13.50
Cast	18.00 to 19.00
Clippings	21.00 to 22.00

Secondary Metals

Remelt aluminum No. 12	24.00 to 25.00
Brass ingot	12.00 to 12.25

Coke By-Products

Market Is Steady—Supplies Lighter—Sulphate Strong

New York, March 9.—Although demand for distillates is active and production is shrinking slightly, as an indirect result of the coal strike settlement, prices have not shown a tendency to advance. Ninety per cent benzol is quoted at 24 cents, works, in tanks and 29 cents, in drums; pure benzol at 23 cents, works, in tanks and 28 cents in drums; solvent naphtha and toluol, 35 cents, works in tanks and 40 cents in drums; and commercial xylol, 36 cents in tanks and 41 cents in drums.

Sulphate of ammonia is nominally unchanged at $2.70 to $2.75, delivered, for domestic account and $2.70 to $2.75, port, in double bags for export. There is very little spot business to afford a test; however, supplies continue light, with the bulk of production going into contract business. The tone of the market is strong.

Naphthalene is firm at 7 cents, works, in flakes in carload lots and 8 cents for balls. Trading is not as brisk as a week ago, as many consumers are becoming covered on their spring requirements.

Coke Oven By-Products

Per Gallon at Producers' Plants in Tank Lots

	Spot	Contract
Pure benzol	$0.23	
90 per cent benzol	0.24	
Toluol	0.35	
Solvent naphtha	0.35	(nominal)
Commercial xylol	0.36	(nominal)
Phenol	0.22	0.22
Per Pound at Producers' Plants		
Naphthalene flakes	0.07	
Naphthalene balls	0.08	
Per 100 Pounds Delivered		
Sulphate of ammonia	$2.72½	

Coast Demand Heavier

Structural Buying Gives Heaviest Week in Over a Year—Pig Iron at Standstill and Bar Demand Slow

SAN FRANCISCO, March 8.—(*By Air Mail*)—General business conditions along the entire Pacific Coast are considered good, although heavy buying of iron and steel products has not yet begun. Much new work is in sight and structural shape and plate fabricators are becoming busier. Of importance this week was the placing of over 11,000 tons of structural shapes, the heaviest tonnage booked in over a year. The new Russ building in San Francisco was awarded to the United States Steel Products Co., and calls for 9500 tons.

Pig Iron and Coke

Trading in pig iron and coke during the past week was practically at a standstill and as far as could be ascertained only a few small lots were booked. Little improvement is noted in the demand for finished castings and the rate of foundry operations is still considerably below the so-called normal. Prices remain unchanged from those quoted last week.

Coast Pig Iron Prices

Columbia basic	$27.00 to 28.00
Columbia, No. 2 Fdry., San Francisco and Los Angeles	27.00 to 28.00
Anzan No. 1 (Chinese) 2.50 to 3.50 sil. Del. S. F.	25.50
Anzan No. 1 (Chinese) 2.50 to 3.50 sil. Del L. A.	26.00
*Dutch	24.00
*Indian iron	24.25
*Belgian	24.00
German	24.00
*English (2.75 to 3.75 sil.)	25.00 to 26.00

*C.I.F. duty paid.

Bars, Plates and Shapes

Demand for merchant bar material has shown little improvement since the first of the year, most orders being single carlots or less-than-carload lots. Eastern mills are generally quoting 2.35c c. i. f. Coast ports while the local mills are naming 2.40c f. o. b. mill. No awards of importance for reinforcing bars were reported this week, but distributors of this class of material state a fair volume of small work is coming to hand. Included among the larger pending tonnages are 250 tons for a bridge over the Santa Maria river in California, 800 tons for the seventh street viaduct in Los Angeles and 600 tons for the Sunset tunnel in San Francisco. Out-of-stock prices are becoming firmer and 3.20c is being quoted generally on less-than-carload lots.

Featuring the plate market this week was the award of 22 tanks for the Union Oil Co., at Los Angeles, involving 2020 tons, to the Western Pipe & Steel Co. Other bookings were 425 tons for small tanks for the Pan American Petroleum Corp., Los Angeles, and 300 tons for a lock-bar pipe line at Tacoma, Wash. Pending business exceeds 19,000 tons, nearly 13,000 tons being involved in the San Diego pipe line project. The Dalles, Ore, will open bids March 16 for a pipe line requiring over 1000 tons. Most plate producers are holding to 2.30c c. i. f. but some business has been booked this week at 2.25c. On large desirable tonnages, carrying extras, it is thought that 2.20c could be obtained.

More structural shape tonnage was placed this week than at any time since the award of the Carquinez Straits bridge, involving 16,000 tons, over a year ago, the total for the week being 11,000 tons. In addition to the Russ building calling for 9500 tons, Moore Drydock Co. was awarded the Estuary bridge in Oakland, 310 tons, Western Iron Works took 525 tons for the Hale Bros. addition in San Francisco and Dyer Bros. booked 200 tons for an apartment house in San Francisco. Pending business calls for over 12,000 tons. Prices appear firm at 2.35c c. i. f. as a minimum.

Other Finshed Material

Demand for tubular goods is reported as being fair with standard pipe being most in demand. The Pacific Gas & Electric Co., has placed 1500 tons of 6⅝ x 16-inch with an unnamed interest while the Associated Oil Co., of San Francisco has placed 210 tons with an eastern producer.

The Pacific Fruit Express Co., has placed with an eastern manufacturer 6500 tons of car axles. Bids are being received by the Southern Pacific Co., on about 100 tons of blooms and billets.

Iron Contracting Slow

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aggregating 7000 tons of northern foundry and malleable pending, activity in pig iron has been revived. Producers and sellers believe this inquiry indicates large users not covered for second quarter, are beginning to interest themselves. The Muncie Malleable Co., Muncie, Ind., wants 3000 tons of malleable for second quarter, while a melter in southern Illinois is inquiring for 2000 tons of the same grade. The remaining 2000 tons of inquiry specifies northern foundry. The largest sale of the week was 2000 tons of malleable to a Cincinnati district user for second quarter. Reports are current that the Standard Sanitary Mfg. Co., closed for 1000 tons of northern foundry for Louisville, but this could not be confirmed. Northern iron is firm at $21 Ironton, while southern iron ranges from $21.50 to $23 Birmingham.

Chicago, March 9.—Considering the tonnage of second quarter iron remaining to be placed the market appears inactive. Sales, however, seem to be on the upgrade. Technically the market appears stronger at $23, Chicago furnace, for No. 2 foundry and malleable. Consumers' stocks, it is said, will not average over two weeks. Furnace yard stocks also are low. Buying in the Michigan and Milwaukee districts seems proportionately higher than in Chicago proper. Two sales of 750 tons each of malleable have been made to automobile foundries in Michigan. A Chicago melter has closed on 2000 to 3000 tons of No. 2 foundry. Federal B furnace has been relighted, making 8 out of 10 merchant stacks active in this district. Low phosphorus and silvery irons are inactive but firm. Charcoal furnaces have rarely been sold up better at this time.

St. Louis, March 9.—Buying of pig iron is almost at a standstill. Many melters have sufficient stocks to carry them through the next 90 days, barring an increase in business. The total melt in this district in February was about equal to that in January, but slightly under the total of February last year. Pig iron sales in the past week aggregated less than 600 tons. Inquiries are pending for approximately 1200 tons, mainly for high silicon iron for delivery during the second quarter. Southern furnaces continue to quote $22 to $23, but only an occasional carload is being placed at these prices. It is understood the Birmingham producers would consider less on attractive business. While Chicago iron nominally is $23, base, offerings from furnaces there have been made to users in this district which would figure back to about $21. The leading local producer is asking $23.50 to $24, f.o.b. Granite City, Ill.

Birmingham, Ala., March 8.—Foundry iron producers in Alabama are being pressed for delivery on contracts. New business is steady and while not as active as in December bookings for second quarter already are heavy. Quotations are strong at $22 for No. 2 foundry and spot business is commanding $23. Foundry iron tonnage on yards is small.

New York, March 9.—Gilbert & Barker and the Standard Oil Co. of New Jersey of which the former is a subsidiary, both are taking bids on 2000 tons of 2X foundry for Springfield, Mass. This is the first time that Standard Oil has figured in the pig iron market. Richardson & Boynton Co. are inquiring for 800 tons of prompt 2X. Central Foundry Co. and Essex Foundry Co., Newark, N. J., have second quarter inquiries pending. About two-thirds of the 6000 tons involved is expected to be placed in Europe. Worthington Pump & Machinery Corp. and Baird Machinery Co. have bought some foreign tonnage. Foreign offerings are the largest here for some time. Standard European foundry iron is offered freely at $20.50 to $21.50, duty paid cars tidewater. Dutch Indian iron is firm at $22 base. Some European offerings now are $19.75 duty paid. Eastern Pennsylvania foundry iron is $22 base furnace.

British Protest Plate Subsidy

Government Guarantee for New Plant Opposed as Present Capacity Is Sufficient—Belgian Pig Iron Being Absorbed for Domestic Use and Exports Refused —American Pig Iron Purchases Again Lead in February

European Headquarters,
IRON TRADE REVIEW,
2-3 Caxton House, Westminster, S. W.1

LONDON, March 9.—(*By Cable*)—America again was the largest buyer of Middlesbrough pig iron in February, taking 4000 tons. Steel exports for the month were 97,900 tons and are steadily on the increase, indicating this will be the heaviest year in history. A threatened lockout in the engineering industry is giving a check to buying and is holding back contracting.

Pig iron is slightly easier, following a lower price for coke. Less continental semifinished steel is being offered in Great Britain but finished steel is strongly competitive. Galvanized sheet mills are well booked to the end of April.

Northern steelmakers are protesting the government guarantee of £650,000 for the Appleby Iron Co. for a plate mill on the grounds that existing mill capacity of this kind far exceeds prospective requirements.

Belgian works are being operated at capacity and are declining foreign orders because of heavy home commitments. Few export rail orders are being taken. Plates are the busiest department of the finished steel market.

British Steel Situation Is Growing Better

LONDON, March 1.—(*European Staff Service*)—A slight revival of shipbuilding has been a welcome feature in Great Britain and most satisfactory was the contract for three large motor vessels for Rio de Janeiro owners received by William Beardmore & Co. However, iron and steel export business on the whole is quiet. Fair quantities of hematite pig iron are being called for from the Continent. West Coast hematite is priced at £4 4s ($20.35) f. o. b. United Kingdom ports. Middlesbrough foundry pig iron is maintained at £3 10s ($17). Shipments of pig iron from the Clyde to foreign destinations in the past week were 2073 tons, as against 1153 tons the previous week. Continental pig iron has been offered more freely of late, but not at prices which compete with British pig iron in the inland districts.

In the steel department little export business is being done by British interests. A good order for steel sleepers and a contract for 1000 wagons was placed in Wales by colonial railroads. The sheet department is one of the most satisfactory and good orders have been booked for some descriptions for India and the Far East. Considerable quantities of continental material are coming in against old contracts, but in new business continental makers appear to be adhering to their recently advanced prices and this has, to some extent, checked buying. Continental billets can be obtained delivered in Birmingham at £5 10s ($26.60), but British billets can be had at a slightly higher price and, of course, obtain preference. Hopes are expressed that the development of the Kent coalfields by Pearson and Dorman, Long, under a government guarantee of £2,000,000 ($9,700,000) extended over a period of 30 years, will bring about the development of steel industries in the district on modern and economical lines, and that lower production costs assured in this way will enable British steel to compete against continental material.

The element of interest on the con-

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Current Iron and Steel Prices of Europe

Dollars at Rates of Exchange, March 8	*British* Gross Tons U. K. Ports		*French* Metric Tons Channel Ports		*Belgium and Luxemburg* Metric Tons Channel Ports		*German* Metric Tons Rotterdam or North Sea Port	
Export Prices f. o. b. Ship at Port of Dispatch—By Cable								
PIG IRON		£ s d		Francs		Francs		£ s d
Foundry No. 3, Silicon 2.50-3.00	$17.01	3 10 0*	$14.30	395	$15.44	340	$17.01	3 10 0
Basic	17.28	3 7 0	12.56	347	15.44	340	15.07	3 2 0
Basic-bessemer	18.59	3 16 6†	14.66	405	14.53	320	17.01	3 10 0
Hematite, Phosphorus 0.02-0.05	20.41	4 4 0	20.09	555	.....	...	18.23	3 15 0
SEMIFINISHED STEEL								
Billets	$26.73	5 10 0	$21.00	580	$21.79	480	$24.30	5 0 0
Wire rods	43.74	9 0 0	28.24	780	28.83	635	27.95	5 15 0
FINISHED STEEL								
Standard rails	$35.24	7 5 0	$22.44	620	$26.70	588	$32.08	6 12 0
Merchant bars	1.49c	6 17 6	1.15c	700	1.17c	570	1.18c	5 7 0
Structural shapes	1.33c	6 2 6	1.02c	620	1.17c	570	1.03c	4 19 0
Plates, ship, bridge and tank	1.52c	7 0 0	1.27c	775	1.22c	560	1.32c	6 0 0
Sheets, black, 24 gage	2.22c	10 5 0	2.18c	1,330	2.20c	1,070	2.64c	12 0 0
Sheets, galvanized, 24 gage, corrugated	3.50c	16 2 6	3.28c	2,000	4.53c	2,200	3.63c	16 10 0
Bands and strips	2.17c	10 0 0	1.41c	860	1.50c	730	1.54c	7 0 0
Plain wire, base	2.39c	11 0 0	1.90c	1,160	1.65c	800	1.71c	7 15 0
Galvanized wire, base	3.04c	14 0 0	2.56c	1,560	2.27c	1,100	2.04c	9 5 0
Wire nails, base	3.15c	14 10 0	2.13c	1,300	1.75c	850	1.76c	8 0 0
Tin plate, base box 108 pounds	$ 4.74	0 19 6	.....	...	.....	...	$ 6.56	1 7 0
Domestic Prices at Works or Furnace—Last Reported								Marks
Foundry No. 3 Pig Iron, Silicon 2.50-3.00	$17.01	3 10 0	$14.66	405(2)	$14.98	330	$19.55	85
Basic pig iron	16.28	3 7 0	15.20	420(1)	14.53	320	20.24	88
Furnace coke	3.89	0 16 0	4.16	115	5.22	115	5.06	22
Billets	26.73	5 10 0	19.91	550	21.79	480	27.37	119
Standard rails	1.63c	7 10 0	1.11c	675	1.30c	630	1.48c	142
Merchant bars	1.49c	6 17 6	1.15c	700	1.22c	590	1.35c	129
Shapes	1.44c	6 12 6	1.04c	635	1.17c	570	1.40c	134
Plates, ship, bridge and tank	1.55c	7 2 6	1.28c	780	1.33c	645	1.49c	143
Sheets, black, 24 gage	2.33c	10 15 0	2.17c	1,325	2.21c	1,075	2.14c	205
Sheets, galvanized 24 gage, corrugated	3.50c	16 2 6	3.20c	1,950	4 64c	2,250	3.96c	380
Plain wire	2.39c	11 0 0	1.89c	1,150	1.65c	800	1.85c	177
Bands and Strips	2.28c	10 10 0	1.39c	845	1.58c	765	1.59c	152

*Middlesbrough; †Scotch foundry iron; (1) Basic-bessemer; (2) Longwy. British export furnace coke £0 16s 0d ($3.89) f. o. b. Ferromanganese £15 5s 0d ($74.12) f. o. b. German ferromanganese £14 10s 0d ($70.47) f. o. b.

The equivalent prices in American currency are in dollars per ton for pig iron, coke, semi-finished steel and rails; finished steel is quoted in cents per pound and tin plate in dollars per box. British quotations are for basic open-hearth steel; French, Belgian, Luxemburg, and German are for basic-bessemer steel.

Machinery

Sales Volume Varies in Different Localities —March Expected to Be Good Month— Many Crane Awards Are Pending

MACHINERY buying has been spotty during the last week, each selling territory representing a different picture. Improved sales were noted in the New England district, while in New York orders declined although considerable business was pending. In Pennsylvania buyers of smaller equipment were inclined to hold off while a good business was done in heavy mill machinery. The Cleveland and Detroit areas showed improved activity after sluggishness during the early days of the month. Reports for the Chicago territory were of a conflicting nature, some dealers reporting good sales and others reporting a lack of sales. All in all, however, it is generally agreed that the business pending will make March a satisfactory month.

New York, March 9.—Although orders were lighter the past week, a substantial volume of tool business is under negotiation. Few large lists are noted, but inquiries are numerous and diversified. Among recent orders are four shapers and a rotary level shear for New York Central railroad, placed with Joseph T. Ryerson & Son, who also have been awarded a friction saw by Federal Shipbuilding Co., Kearny, N. J., and a hack saw for the Central of Georgia. This latter purchaser is now understood to have closed on all of its large list, pending recently. Pratt & Whitney Co. have closed on several orders including two 13-inch geared head lathes for Brown & Sharpe Mfg. Co., Providence, R. I.; two vertical surface grinders for Edward G. Budd Mfg. Co., Philadelphia; four automatic milling machines for Moore Drop Forge Co., Springfield, Mass., and two 1 x 18-inch automatic lathes to the Chrysler Corp., New Castle, Ind. Manning, Maxwell & Moore, Inc., have booked a steam hammer for St. Louis-San Francisco; a wheel press for Chesapeake & Ohio; and a universal milling machine for Central of Georgia; and three 75-ton hydraulic bushing presses and two 18-inch engine lathes for Chicago & North Western. This latter railroad continues in the market for a 24-inch pattern planer, two 15-inch portable engine lathes and two 12-inch portable engine lathes.

Boston, March 9.—Machine tool sales in New England have been more numerous during the past week. A Massachusetts textile manufacturer bought a planer unit running in excess of $10,000. General Electric Co. also bought a heavy planer in addition to other equipment. A manufacturer in the western part of the district bought a die sinking outfit including a grinder costing over $15,000. A Connecticut specialty manufacturer bought a battery of three multiple drills. Used tool sales have slowed up, but much interest is expressed in several nearby auctions. Approximately 500 tools will be offered during the week at the plant of Taft-Peirce Mfg. Co., Woonsocket, R. I. Another lot of tools will be offered toward the end of the month at Bath Iron Works, Bath, Me.

Pittsburgh, March 9.—Hesitancy characterizes the machine tool market although in larger equipment the market is active. Numerous propositions are nearing the closing stage. Recent mill equipment orders include a 24-inch universal mill, and four flat mills for Columbia Steel Co., Butler, Pa.; two lapweld pipe mills for Bethlehem Steel Corp., Sparrows Point, Md. The 12 and 16-inch mills for Pittsburgh Crucible Steel Co., Midland, Pa., were awarded to the Mackintosh-Hemphill Co. and United Engineering & Foundry Co., and tables, transfers, etc., also were awarded. The recent order for a 28-inch structural mill for Colorado Fuel & Iron Co., Pueblo, Colo., went to Morgan Engineering Co., Alliance, O., the drive going to Mackintosh-Hemphill Co. A few more cranes have been let but this week a large number are scheduled for placing by Carnegie Steel Co. McClintic-Marshall Construction Co. is compiling bids on a large number, including 12 for a middle western plant.

CRANE ORDERS PLACED

Four cranes, including two 200-ton ingot stripping cranse, one 15-ton and one 25-ton overhead crane, for Homestead works of Carnegie Steel Co., to Alliance Machine Co.

Three 7½-ton cranes for Weirton Steel Co., Weirton, W. Va., to Whiting Corp.

Two 3-cubic yard bucket cranes for Birmingham, Ala., interest, to Whiting Corp.

Two used locomotive cranes for Dominion Bridge Co., Montreal, to A. R. Gelinas, Montreal.

Among single orders were: 20-ton overhead crane for Homestead works, Carnegie Steel Co., to Morgan Engineering Co.; 10-ton crane for Tyler Tube & Pipe Co., Washington, Pa., to Shaw Crane Works; 5-ton 3-motor crane for H. A. Boyle Co., Chicago, to Whiting Corp.; 5-ton 3-motor crane for Allied Steel Castings Co., builder not named; 15-ton electric overhead crane for Pittsfield, Mass., plant of General Electric Co., reported awarded to Niles Crane Corp.; 5-ton crane for Alfred Philippini, West New York, N. J., to Alfred Box & Co.; 3-ton electric hoist for Soscale Iron Works, Guttenberg, N. J., to Alfred Box & Co.; special jib crane for American Car & Foundry Co., New York, to an unnamed builder; 3-ton crane for Union Carbide Co., Niagara Falls, N. Y., to Shaw Crane Works; 50-ton trolley for Baltimore & Ohio railroad, to Shaw Crane Works; 20-ton used locomotive crane for DeSaute Freres, Louisville, Quebec, to Philip T. King; 15-ton locomotive crane for Curley Bros., Inc., Curleyville, N. Y., to Philip T. King.

CRANE ORDERS PENDING

20 or more cranes for McClintic-Marshall Construction Co., Pittsburgh, including 12 for middle western plant; bids being compiled.

Cranes for Homestead and Duquesne works, Carnegie Steel Co.; action to be taken this week.

Cranes for Columbia Steel Co., Butler, Pa.; early action expected.

20-ton locomotive crane for Carnegie Steel Co., Clairton, Pa.; bids being tabulated.

10-ton electric traveling crane for city of Milwaukee; Milwaukee Electric Crane & Mfg. Corp.

Cleveland, March 9.—Although machinery and equipment sales got away to a slow start this month, business during the last few days has picked up and indications are that March sales will compare favorably with other good months recently. Buying continues on the basis of small individual orders, consisting of one and two machines. Demand is widespread with no particular industry predominating. Some lines of equipment, however, are enjoying more substantial demand than others. Bishop & Babcock Mfg. Co., Cleveland, has just awarded a contract for a new plant unit and it is expected that some new shop equipment will be required. Sales of used equipment are good and dealers are unable to supply the demand, some lines of machinery not being available.

Cincinnati, March 9.—The tool market has undergone no material changes the past week. While users are sending out inquiries, particularly the railroads, they are not closing promptly. Hand-to-mouth buying is more pronounced. A better run of orders is expected. A better run of orders ing on a steady basis with the bulk of the machines going into stock. Dealers in used equipment are faring well.

Chicago, March 9.—Machine tool houses disagree in their appraisal of February business, some rating it as considerably in excess of last February and others finding it only a mediocre month, but all agree that March is opening with a volume of inquiry that forecasts a good month. Most of this inquiry comes from the larger manufacturing interests. Deliveries are constantly improving as manufacturers of tools are catching up on their programs. Production drills probably lag the worst. Prices on machine tools generally are unchanged but several smaller lines have announced advances. Ramapo-Ajax Co. has bought a frog and switch planer for its St. Louis plant. Nash Motors Co., Kenosha, Wis., has closed on some tools, including multiple drills. Both Illinois Steel Co. and Inland Co. have lists pending.

Alien Labor Makes Net Gain

Immigrants in Skilled and Unskilled Classes Outnumber Those Who Departed in Seven Months—Many Listed Under Various Trades Become Common Laborers—Increase in Steelworkers Is Over 100 a Month

WASHINGTON, March 9.—While recent reports have indicated that large numbers of aliens have been departing each month from United States shores, leaving net losses of common laborers, it is disclosed by figures of the United States department of labor that net gains in common and skilled labor actually are resulting.

In the seven-month period ended in January, a total of 738 immigrants classified as steelworkers arrived at American ports, and in the period only 77 departed. In January, this year, 104 immigrants were classified as steelworkers, while only five classified as such departed. The January total indicates an increase in laborers of this type arriving in the United States.

Because of a large number of departures of aliens from the United States classified as common laborers, the impression has gained that net losses are imminent. However, it is shown that a number of the immigrants arriving each month are classified as to the occupations they held before leaving foreign countries, and that these largely become common laborers after their arrival here. This accounts for the aliens classified as farm laborers, draymen, teamsters and hackmen actually filling the ranks of common laborers, while not shown as common laborers at the time of their arrival. Many of the latter classification seek work at once in industrial plants.

Pressure exerted on the American quota law by American friends or relatives of aliens largely explains, it is said, the score of bills now before the house committee on immigration. Practically all of these bills seek to relax the present quota law.

The surplus of applications for visas over the legal quotas in foreign countries is so large in most European nations that enormous waiting lists have accumulated, with estimated delays of one to a dozen years.

It is said that 50 per cent of the totals of all quotas are divided among relatives of those who now are American citizens. This feature is said to be causing new interest in naturalization among the 7,000,000 aliens now in the United States. Skilled labor that has been coming to the United States in recent months largely has been from northern and western Europe, while more unskilled labor comes from southern and eastern European countries. Few of these immigrants from northern European countries return, as in most cases they bring their families with full intention to remain.

On the other hand many of the southern European and southeastern European immigrants have been returning after several months' stay. The agrarian land laws of some of the smaller principalities in southeastern Europe passed since the war, under which former land tenants may become landowners after certain periods, is attractive. Many departures are to Italy, Greece, Spain and Portugal, women and children predominating. The industrial laborers remain here as most of the European countries have little to offer in stable industrial employment with the standard of living that can be enjoyed in the United States.

It is reported that in Southampton, England, steamship companies are supporting 200 to 300 Russian refugees in hotels, who have American visas and passports to qualify them to enter. The original number was 3000.

German Immigration Declines

The present recorded demand for German immigration only is for 19,000, against an unissued balance of the quota, as of Jan. 1, of 22,000. When business picked up the demand for visas dropped to almost nothing in the latter country, while in Stuttgart, two large motor factories went on part time, and the demand for visas doubled inside of the week.

It is pointed out that in the case of England, the annual quota allotment is 34,007, with a present estimated demand for immigration visas of 50,000. In most other nations, the disparity between the quota allotment and the number of applications for visas recorded even is greater.

With a quota allotment of 2248, Russians to the number of 43,000 have made application abroad to enter the United States. At the annual rate of 2248, the present registered applicants cannot be entered in less than 15 years, provided all of them continue in their purpose, and thousands of other applications are known to be withheld only because of the congestion.

Western Mill Will Roll Structural Shapes

Contracts for the construction of a 24-inch utility mill and subsidiary equipment such as roller, tilting and transfer tables, shears, etc. have been awarded the Morgan Engineering Co., Alliance, O., by the Colorado Fuel & Iron Co., Pueblo, Colo. The drive will be furnished by the Mackintosh-Hemphill Co., Pittsburgh. The mill will include three stands of 3-high and one stand of 2-high rolls arranged in tandem and will produce I-beams and channels up to 15 inches, angles up to 8 x 8 x 1 inches, rounds and squares up to 8 inches, sheet bars, etc. It will be the most westerly mill in this country designed to roll heavy structural sections. Officials of the Colorado Fuel & Iron Co. also plan to install an 8-inch hand mill and a modern cast iron pipe foundry to meet western requirements.

Additional Ovens Placed

The Koppers Co. has been awarded a contract by the Republic Iron & Steel Co., Youngstown, O., for one battery of 43 Becker-type combination ovens to have a capacity for carbonizing 1100 tons of coal daily.

Rail Equipment Active

(*Concluded from Page* 664)

Imperial Refining Co., Tulsa, Okla., 100 tank cars to Pennsylvania Car Co.

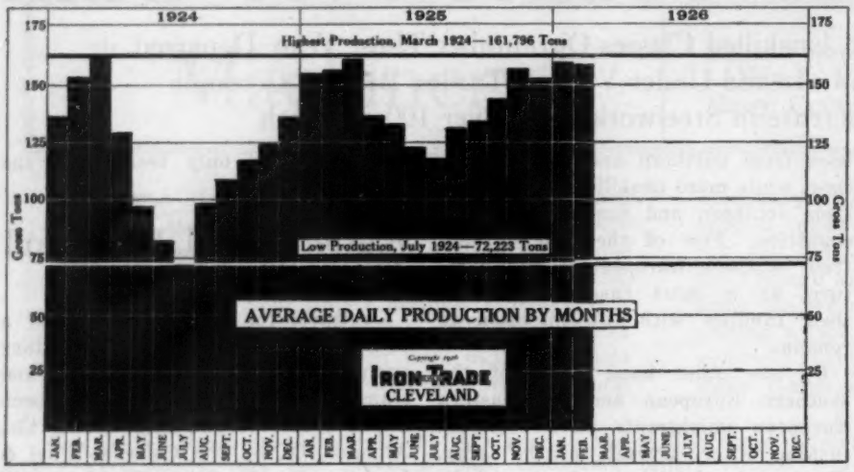
ORDERS PENDING

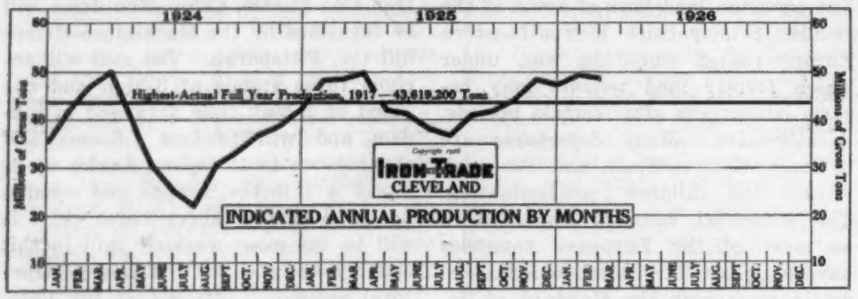
New York Central, 10 passenger motor car bodies; pending.
Seaboard Air Line, 50 cabooses, six passenger cars; pending.
Boston Elevated railroad, 100 car bodies; pending.
Pennsylvania, 2000 automobile cars, 125 baggage-express, 74 coaches, 24 diners, 20 motorized coaches, 8 cafe-passenger and 7 baggage-passenger cars, 100 cabooses; pending.
Chicago, Burlington & Quincy, 100 ballast cars, pending; this is in addition to 500 hopper cars, previously noted.
Canadian National, 50 refrigerator cars; pending.
Birmingham Southern, 100 gondola cars; pending.
Reading Co., 50 passenger cars; pending.

LOCOMOTIVE ORDERS PENDING

Pennsylvania, 200 locomotives; tentative bids asked.
New York Central, unstated number contemplated.
South African Railways & Harbors, 53 locomotives; bids asked.
The Great Indian Peninsula railway, one to 39 electric locomotives; bids asked.
Reading Co., 25 locomotives; pending.

Ingots Highest for February





ALTHOUGH steelmaking operations dropped slightly in February, production of ingots was at the rate of 158,131 tons per day and established the highest February rate in history. This brought the average rate of production for the first two months to 158,974 tons against 155,977 tons in 1925, a gain of 1.9 per cent. Operations during February represented 87.82 pe rcent of the country's theoretical capacity of 56,000,000 gross tons as of Dec. 31, 1925, against a revised figure of 88.72 per cent in January. According to statistics compiled by the American Iron and Steel institute, from figures supplied by companies which in 1924 made 94.43 per cent of the country's total ingot production in February amounted to 3,795,139 gross tons. As compared with January, when 4,153,545 tons was made, output was a loss of 358,406 tons. February had 24 working days as against 26 in January.

Average daily production in February was 158,131 tons per day or 1621 tons per day better than the previous high rate of 156,510 tons in February 1925. Compared with the 159,752-ton rate of January, however, last month's production was a slight loss of 1621 tons per day, or 1.0 per cent. January production had shown a gain of 4.4 per cent over December and was the third highest January rate in history. As compared with the country's record output of 161,796 tons per day in March 1924, the February rate represented 98 per cent.

On the basis of 311 as the number of working days in the year and the production of 158,131 tons per day in February, the indicated annual rate of production was 49,180,000 tons. The indicated annual rate of January was 49,680,000 tons. Highest actual production for a full year was in 1917 with 43,619,200 gross tons.

Steel Ingot Production—1925-26

94.43 Per Cent of Industry Reporting

Gross Tons

1925	Open hearth	Bessemer	All other	Monthly production companies reporting	Calculated monthly production all companies	No. of working days	Approximate daily production all companies gross tons	Change in daily production per cent
Jan.	3,262,748	689,996	11,960	3,964,704	4,198,564	27	155,502	+13.3
Feb.	2,931,964	602,042	13,014	3,547,020	3,756,243	24	156,510	+ 0.6
Total 2 mos.	6,194,712	1,292,038	24,974	7,511,724	7,954,807	51	155,977	
Mar.	3,336,169	614,860	13,633	3,964,662	4,198,520	26	161,482	+ 3.1
Apr.	2,857,802	515,715	14,182	3,387,699	3,587,524	26	137,982	—14.5
May	2,754,130	497,708	13,790	3,265,628	3,458,253	26	133,010	— 3.6
June	2,538,988	476,945	12,490	3,028,423	3,207,056	26	123,348	— 7.2
July	2,444,969	457,095	13,547	2,915,611	3,087,590	26	118,753	— 3.7
Aug.	2,696,667	523,734	12,914	3,233,315	3,424,034	26	131,694	+10.9
Sept.	2,737,251	547,121	13,977	3,298,349	3,492,904	26	134,342	+ 2.0
Oct.	3,075,995	584,567	15,624	3,676,186	3,893,028	27	144,186	+ 7.3
Nov.	3,091,361	581,347	17,085	3,689,793	3,907,437	25	156,297	+ 8.4
Dec.	3,169,224	569,304	15,843	3,754,371	3,975,824	26	152,916	— 2.1
Total	34,879,268	6,660,434	168,059	41,725,761	44,186,977	311	142,080	
1926								
Jan.	3,326,846	581,683	13,664	3,922,193	4,153,545	26	159,752	+ 4.4
Feb.	3,014,901	556,031	12,818	3,583,750	3,795,139	24	158,131	— 1.0
Total 2 mos.	6,341,747	1,137,714	26,482	7,505,943	7,948,684	50	158,974	

Will Install Mechanical Doubling Equipment

Pittsburgh, March 9.—Proceeds of the $6,000,000 issue of 20-year sinking fund gold bonds financed through the Bank of Pittsburgh National association for the McKeesport Tin Plate Co., McKeesport, Pa., or a large part of them will be utilized in bringing present equipment of the large plant up to a higher degree of efficiency. No additions will be made to the present 44 tin mills but mechanical doublers will be installed and other efficiency measures will be adopted. It is expected that this modernizing of equipment will bring production up at least 20 per cent. The rise of the McKeesport Tin Plate Co. has been rapid. Beginning in 1902 with a capital of $600,000, it has a present net worth of $14,500,000. It owns 28 acres of land located at Port Vue, near McKeesport, on which are erected 44 mills, giving employment to 3000 people, and having a capacity in excess of 4,000,000 boxes of tin plate annually.

Coke Ovens Are Awarded

The Koppers Co. has been awarded a contract by the Central Steel Co. for a by-product coke plant at Massillon, O. This plant will consist of 49 Becker-type combination ovens having a carbonizing capacity of approximately 1350 tons of coal a day together with the necessary by-product and benzol equipment and coal and coke handling plant.

Commonwealth Iron Works, New York, has increased capital from $10,000 to $50,000.

Coast Steel Gross Rises Is Being Negotiated

The annual report of the Pacific Coast Steel Co. shows gross operaing earnings of $1,499,970 and gross income of $6,579,045 in 1925 as against $6,282,707 in 1924. Total reserve and surplus funds are in excess of $5,000,000 or half the total assets. The company has plants at Seattle, Portland, San Francisco and Los Angeles and also owns the Southern California Iron & Steel Co.

Says Prices Too Low

With the exception of price conditions in the iron and steel industry are good and prospects for 1926 are considered excellent according to President S. P. Ker of the Sharon Steel Hoop Co. in his annual report to stockholders. The report points out that average shipping price of the finished steel product of the company in 1925 was $62.60 a ton. This compared with $67.30 a ton in 1924 and with $80.90 a ton in 1923. The decline in the three years is more than 22 per cent. The company reports earnings of $1,129,952 in 1925 against $1,668,573 in 1924.

Gulf States Net Gains

Net income of the Gulf States Steel Co., Birmingham, Ala., was $1,036,777 after charges in 1925 compared with $979,315 in 1924. Gross sales last year were $10,417,965 against $9,403,000 in 1924. After dividends the surplus was $271,777 compared with a surplus of $278,530 in the preceding year. During 1925 the company paid $1,289,230 in stock dividends. This reduced the profit and loss surplus to $3,121,182 compared with $4,138,635 at the close of 1924.

Baldwin Net Declines

Net income of the Baldwin Locomotive works for the year ended Dec. 31, was $196,563 before depreciation. This compares with $1,320,026 after depreciation in 1924. The Standard Steel Works, Burnham, Pa., wholly owned by the Baldwin Locomotive Works reports a net income for 1925 of $845,640, after all charges, compared with $607,005 in 1924.

Protection Is Urged

The report of the Replogle Steel Co. and subsidiaries for the year ended Dec. 31, 1925, shows net income of $649,503 after interest, depreciation, depletion and other charges. This compares with $592,469, in 1924. The net income for the fourth quarter of 1925 totaled $197,011, equivalent to 39 cents a share compared with $226,562, in the previous quarter and $207,615, in the June quarter of 1925.

In a statement to stockholders President Leonard Peckett, called attention to large imports of foreign iron and urged a higher protective tariff on iron.

Transue Shows Gain

Net income of $149,445, after charges is reported by the Transue & Williams Steel Forging Corp. for 1925. This compared with $75,042 in the preceding year. The comparative income account follows:

	1925	1924	1923
Net sales	$4,865,903	$4,190,716	$5,936,198
Overhead, etc.	4,582,441	4,047,345	5,326,165
Mfg. profit	$ 283,462	$ 143,371	$ 610,033
Selling expense, etc.	186,427	137,342	136,979
Operating profit	$ 97,035	$ 6,029	$ 473,054
Other income	65,410	70,513	35,837
Total income	$ 162,445	$ 76,542	$ 508,891
Federal taxes	13,000	1,500	50,000
Net income	$ 149,445	$ 75,042	$ 458,891

Business Best Since War

The present business situation is the best it has been since the war and prospects for a continued period of activity are good, said President Verity of the American Rolling Mill Co., Middletown, O., in his annual report to stockholders. Net sales of the company in 1925 amounted to $34,257,812 against $28,679,818 in 1924. Cost of sales during the year was $27,877,451 compared with $24,539,000 in the preceding year. Net income carried to surplus by the company was $2,886,312. This compares with $2,845,055 in 1924. Gross income from all sources amounted to $3,707,478 against $3,742,263 in 1924. The balance as of Dec. 31, 1925, was $12,123,726. The balance one year before was $12,810,516. During the year $1,049,643 was paid as stock dividend on the common stock.

Donner Earnings Gain

Improvement in earning power of the Donner Steel Co. and its subsidiary, the Donner Mining Co. is shown in the consolidated income account of that company for the year 1925. The annual report states that net income for the year was $793,136, against $542,776 in 1924, a gain of $250,360, or over 46 per cent. After dividends on the company's $3,000,000 of 8 per cent preferred stock, this was equivalent to $8.12 a share earned on its $6,000,000 of 7 per cent preferred, against $5.04 a share the year before.

Midland Profits Higher

The Midland Steel Products Co. reports for the year ended Dec. 31, 1925, a net profit of $2,724,773 after interest, depreciation, federal taxes, etc. These earnings are equal to $22.74 a share on the 95,543 shares of preferred stock and $11.04 a share on 50,000 shares of no par common. The company earned in the previous year $1,807,481, or $19.21 a share, on 73,000 shares of preferred and $8.09 a share on common.

Oversubscribe Otis Issue

The bond issue of $12,000,000 offered by the Otis Steel Co., Cleveland through a syndicate headed by Blair & Co., New York, and the Union Trust Co., Cleveland, has been oversubscribed. Announcement is also made that the directors will shortly propose to the stockholders a plan for exchanging the existing preferred stock for the new prior preference stock. It is expected that this exchange will be on the basis of about 1.33 shares of the new 7 per cent prior preference stock for one share of the existing preferred stock..

Earnings for 1925 before depreciation were $2,126,387 compared with a loss of $715,785 in 1924, indicating an improvement of $2,842,171. After depreciation, 1925 earnings were equal to 3.15 times the annual interest charges on the $12,000,000 of new bonds. In January the company showed net profit before depreciation of $311,512 against $96,706 in corresponding month last year.

Good Hope Offers Bonds

The Good Hope Steel & Iron Works, a German company organized in 1741 is offering $2,500,000 of 20-year 7 per cent sinking fund mortgage gold bonds, through Lee, Higginson & Co. and W. A. Harriman & Co. Inc. Properties of the company include 11 blast furnaces, three steelworks of 1,000,000 tons aggregate annual capacity and other important properties.

Truscon Adds Capital

Stockholders of the Truscon Steel Co. have approved an increase on the common, $10 par value, from 4,500,000 to 7,000,000 shares, and also the declaration of a 6 per cent common stock dividend, payable in quarterly installments of 1½ per cent to be paid with the regular quarterly cash dividend of 30 cents, the next payment of which will be made Jan. 30.

Managers Discuss Distribution

Stabilizing Markets by Means of Selling Policies Featured at Meeting of American Management Association—Training and Rating of Salesmen Brings Out Some Interesting Ideas

DISCUSSION of distribution problems by members of the American Management association at their meeting in New York, March 3-5, developed some constructive ideas. One of the most important features was a talk by R. B. Flershem, vice president and general manager of sales of the American Radiator Co., on "Marketing Policies and Sales Methods That Stabilize." He described the sales policies of his company, and traced influences and effects in market conditions. Efforts made to stabilize market conditions in the machine tool industry also were touched upon by speakers. The training and rating of salesmen brought out a number of interesting expressions by speakers who are prominent in this field. One sales manager whose company has developed a method for rating its salesmen said:

"I never knew a good salesman who did not know he was good. In fact, all the good salesmen I ever knew thought they were darn good and the idea they might be weak in certain particulars probably never occurred to them. These good salesmen are always looking for higher remuneration and they feel a righteous indignation if you pass them by when you hand out the increases. But with this system, after the salesman has had his qualities and performance criticized and had his weaknesses pointed out, he is not so cocksure. After having his defects pointed out, he is more apt to be surprised by a raise in the salary arrangement than to be indignant over failure to advance him."

Describes Marketing in Radiator Industry

THERE are four factors which have an influence on variations from the published price on radiators, said Mr. Flershem, and he recounted instances to illustrate their effect. In talking about the influence of quantity buying, he recalled the big order that came out in 1915 involving the heating apparatus for the William Penn hotel at Pittsburgh. At that time about half the radiators were sold direct to contractors and plumbers and the other half to jobbers. The differential at which jobbers were able to buy radiators had grown to 15 per cent under the published price. The contractors and plumbers got differentials of 5, 10 and in some cases, 15 per cent, depending on the size of the business. The William Penn order involved about one-quarter the total amount of business which represented the average quantity handled by a jobber in a year. When the business was placed, however, it went at 26 per cent off the published price, or at a cut of 11 points more than the largest jobbers and contractors were able to obtain. Of course, said Mr. Flershem, the radiator company lost money on this order. But as a result, selling policies were revolutionized.

On the following Jan. 1, he said, the American Radiator Co. adopted a new policy. It issued printed price sheets, and it was set forth that customers would be allowed certain discounts depending on the quantity of business they placed annually. The company lost 25 per cent of its business during the first two months following the inauguration of this new policy. Then it started to come back. The advantages of the new policy were appreciated by everybody. The entire trade knew what prices were being paid. Everybody knew that the discount to jobbers was 7½ per cent, and that contractors and plumbers got all the way from 2 to 7½ per cent depending on the amount of their business. This price arrangement proved satisfactory for five years and during that time there appeared to be only two cases of cutting prices to jobbers in the entire trade. Additional improvements in the price quoting arrangement have been made since, and discounts for quantity now are ascertained by definite formula, thus permitting little opportunity for juggling of prices.

Why Selling Prices Vary

Another influence on variations from the published price, said Mr. Flershem is the distance between the source of supply and the place of use. Radiators are bulky and heavy, and there are many sizes and widths, so that jobbers do not care to carry complete stocks. It consequently is necessary for the manufacturers to warehouse their own radiators. The selling price, said Mr. Flershem, is based on the freight to the particular territory, the warehousing cost and the selling cost in that territory. In the West, where the freight charge is higher, and where selling expense is higher due to the fact consumption is less concentrated, the company charges the less-than-carload freight on its radiators. It has adjusted its selling prices in each territory in the same way, thus leaving no easy way for competitors to cut prices.

An important influence which was brought out by Mr. Flershem was that of the time of delivery. In the old days radiators used to be bought in spring and delivery accepted in the fall. This brought about a great seasonal influence. On Jan. 1, 1923 the company started to allow discounts for early delivery. On orders for delivery in three months it allowed 2½ per cent. On orders for delivery in six months it allowed 5 per cent and on orders for delivery in nine months it allowed 7½ per cent. This policy has been followed ever since. As a result, where 14 per cent of the year's business formerly was delivered in October, the percentage delivered in that month now is 12.4. Similarly, delivered in November have dropped from 13.2 to 9.6 per cent.

The fourth and major influence on the price is the relation between the demand and the supply. As a result of the sale of radiators at cost during 1921, following overproduction in 1920, the company has built up a better forecasting system. One thing it has done is to establish a normal relationship between the number of building permits and the radiator demand. This was made possible for the reason that the volume of building permits determine the volume of radiator business four months ahead.

The industry now has a central bureau for compiling statistics for the trade generally and thus each com-

pany in the radiator business has the same forecasting. Flershem said that when his company sees there is an overproduction, it drops prices fearlessly and effectually. On the other hand, when it sees that the forecast indicates a better demand, it is just as quick to advance them. In closing, he spoke on the advisability in each industry of having an acknowledged and capable leader to whom the trade can look for initiation of price changes.

F. E. Barth, general sales manager, Graton & Knight Mfg. Co., told about his company's efforts in establishing standards which will permit of quality and price comparison on leather belting. The result of this standardization makes it possible for the consumer to act more intelligently and hence has a stabilizing effect on the market.

Other Products Are Offered

Clarke P. Pond, vice president, David Lupton's Sons Co., Philadelphia, said that some years ago, when it manufactured only metal sash, its business either was too large or too small. The company conducted extensive investigations as a result of which it added various lines, such as partitions, different types of windows and sash, shelving and other steel products. As a result it has been able to counteract seasonal influences by supplementing one product with another in the manufacturing schedule, and it is able to keep its equipment and its organization at work. The peaks and valleys of its business now are more than 20 per cent less pronounced than they were eight years ago. Rating of salesmen in accordance with their qualities and performance by no means has been developed to the basis of a science, it was shown at another session. Such rating systems, however, are found useful by a great many companies, particularly those having large numbers of salesmen, and the indications are that they will be more valuable as times go on.

One sales manager whose company employes hundred of salesmen told about a system which he adopted last fall and which he employed the beginning of this year in renewing yearly contracts with salesmen. He graded the salesmen into four groups, based strictly and entirely on their performance in getting business. Those in group A were slated for renewals of contracts without any further consideration, and "with a pat on the back." Those in group B included the salesmen who had struck an average gait but who, the management thought, had the ability to do better. Those in group C were somewhat below the average and were slated for renewal subject to the decision of the branch managers to whom these men reported. Those in group D were slated for dismissal, subject to explanation by the branch managers as to why they should not be dismissed.

It developed there is no standard rating method. It was recommended that to get a rating system established, it is necessary to make a preliminary job analysis, and thus determine what qualities are needed in the different jobs. Such an analysis will yield a scale by which a salesman can be rated.

Few companies attempt to evaluate the results of these ratings. Some of the leading concerns regard the ratings as useful, up to the present time, only in measuring the individual salesman's efficiency, and in pointing out his weaknesses. They indicate the kind of training a salesman should have.

A good deal was said about the circumstances which make it difficult to get correct ratings. For instance, a branch manager almost never admits having many salesmen who are under the average in ability. The man who does the rating generally gives a better rating to older employes than to new men. He unconsciously gives a preference to those he knows as compared with those not in his personal acquaintance. He also may show an inclination to give bettter markings to a man who possesses striking social qualities. But where a scale is used which makes provision for the weaknesses of the employes, there is bound to be some weakness shown by the rates, and thus an indication as to how each particular salesman can be improved.

Consideration was given the problem of assigning the duty of training salesmen. It developed that there is no standardized rule. The speaker for a large life insurance company declared against home office training and said that best results had followed when the training of agents is left to the district managers. The representative of a large meat packing company with more than 500 branch offices all over the country said it was the desire of the company that the branch managers train the salesmen but that not more than half of the managers functioned as well as desired in this particular. One speaker stated that by letting the branch manager share in the profits from his territory, his efforts in training his men were stimulated. It was thought by several prominent speakers that nothing arbitrary should be done in forcing individuals to train their subordinates; best results are obtained by working up a training scheme which will fit the organization rather than by adopting a system which will not work smoothly.

Stabilizing Machine Tools

THE extent to which business trend studies have entered into the calculations of the machine tool manufacturers was shown by F. B. Heitkamp, advertising manager, Cincinnati Milling Machine Co. He exhibited a table which indicated that 40 *per cent of the machine tools manufactured in the United States go to the automobile industry,* 22 *per cent to miscellaneous industries,* 8 *per cent to the electrical industry,* 7 *per cent to the manufacturers of textile machinery,* 7 *per cent to the railroads,* 6 *per cent to manufacturers of small machinery and the other* 10 *per cent to scattered industries.*

Mr. Heitkamp stated that his company makes up compilations forecasting industrial activity. Its present figures indicate that automobile production in 1926 *will be* 5 *to* 10 *per cent less than in* 1925, *but that purchases of machinery by practically all the other industries in* 1926 *will be above the* 1925 *volume. He explained how his company analyze the kind of machine tool buying that is done by each industrial group, and it ties up this analysis with the forecast. Thus it is able to schedule its activities a year in advance.*

He said his company does not wait for inquiries. It creates business by showing buyers the returns they will get from investments in new tools. He explained how the machine tool industry, through the agency of a co-operative committee representing the industry, ties up a trade paper advertising and publicity campaign with the possibilities of machine tool business.

To Meet in Providence

The American Society for Testing Materials has arranged for a three-day group meeting at the Providence Biltmore hotel, Providence, R. I., March 17-19. At that time sessions will be held by a number of committees and joint committees, including the following: Committee A-1 on steel; A-5 on corrosion of iron and steel; D-1 on preservative coatings for structural materials; E-1 on tests of thin sheet metals; and the joint committee on the effect of phosphorus and sulphur in steel.

Current Statistics of Industry

January Auto Output Is Less Than December

Washington, March 9.—January output of motor vehicles as reported by the department of commerce was 282,483 passenger cars and 32,511 trucks. This was a total of 314,994 cars and trucks compared with 319,569 in December and 241,061 cars and trucks in January, 1925. There was a loss of 1 per cent over December and a gain of 30 per cent over January, 1925. Compared with one year ago passenger cars increased 33 per cent and trucks gained 14 per cent. The following table shows the output of cars and trucks by months in recent years:

Passenger Cars

	Total 1923	Total 1924	Total 1925	Total 1926
Jan.	228,860	293,822	212,908	282,483
Feb.	260,320	343,444	252,785	*328,000
March	327,038	357,006	332,151	
April	351,622	346,355	391,802	
May	358,646	286,266	382,714	
June	343,985	225,034	364,806	
July	303,497	244,503	358,554	
Aug.	318,848	255,193	221,813	
Sept.	302,340	263,468	272,413	
Oct.	338,469	260,845	406,569	
Nov.	288,810	204,316	336,358	
Dec.	279,862	182,028	285,199	
Total	3,702,297	3,262,280	3,817,639	

Trucks

	1923 Total	1924 Total	1925 Total	1926 Total
Jan.	20,506	30,627	28,141	32,511
Feb.	23,283	32,756	34,410	*36,000
March	36,619	36,270	45,098	
April	39,641	37,766	47,822	
May	45,677	35,112	43,303	
June	42,453	28,884	38,054	
July	31,703	26,227	41,840	
Aug.	32,195	28,503	37,770	
Sept.	29,626	31,829	60,374	
Oct.	31,515	32,332	45,823	
Nov.	29,166	27,766	40,001	
Dec.	28,862	27,324	34,370	
Total	391,246	375,426	497,104	

*Estimated.

Furniture Orders Heavy

Washington, March 9.—Orders for steel furniture in January were valued at $2,652,208 the heaviest monthly total since the department of commerce started compiling these data. Shipments were valued at $2,434,205 compared with $2,418,577 in December and $1,972,137 in January 1925. Shelving sales dropped from $620,947 to $580,948 in January. Following are further comparisons:

BUSINESS GROUP

	Orders received	Shipments	Unfilled Orders
1925			
January	2,206,952	1,972,137	1,455,890
February	1,986,151	1,939,097	1,501,460
March	2,012,322	2,027,863	1,482,859
April	1,964,959	2,009,199	1,466,428
May	1,855,552	1,918,869	1,383,424
June	1,792,656	1,805,599	1,390,540
July	1,823,435	1,810,754	1,445,897
August	1,664,649	1,688,965	1,358,386
September	1,969,769	1,816,484	1,535,231
October	2,170,076	2,130,498	1,406,117
November	1,975,117	1,885,505	1,496,242
December	2,454,277	2,418,577	1,531,505
1926			
January*	2,652,208	2,434,205	1,760,573

SHELVING

1925			
March	$ 606,754	$ 539,972	$ 515,434
April	566,834	650,769	436,048
May	523,426	549,272	372,296
June	501,182	514,117	360,089
July	510,815	482,187	398,973
August	516,694	452,716	447,255
September	624,676	542,173	511,689
October	730,911	622,471	626,933
November	686,814	574,905	739,831
December	620,947	788,461	570,941
1926			
January	580,948	577,364	583,415

*Data for one company estimated.

January Fabricated Plate Bookings Shrink

Washington, March 9.—Fabricated steel plate bookings in January were the smallest since September, totaling 24,467 tons compared with 31,585 tons in December and 27,064 tons in January 1925. Oil storage tank and blast furnace construction were the only two classifications of consumption to show increase in January over December. Further comparisons of bookings follow:

	Total	Oil storage tanks	Gas holders	Blast furnaces	Stacks and miscellaneous
1923	539,043	296,128	44,576	9,815	141,359
1924	313,109	123,368	43,747	12,601	108,046
1925—					
Jan.	27,064	4,314	6,529	4,495	9,276
Feb.	20,805	3,321	4,059	289	7,763
March	22,502	2,908	3,635	651	8,158
April	*22,430	6,547	1,460	691	9,351
May	27,684	8,503	2,118	404	10,141
June	34,402	16,327	2,192	373	11,349
July	*29,272	16,327	2,284	373	11,349
Aug.	29,261	7,500	3,671	1,240	11,826
Sept.	*23,983	8,458	1,510	425	10,600
Oct.	28,338	8,076	1,432	2,500	12,621
Nov.	28,557	7,492	4,559	581	9,491
Dec.	*31,585	7,714	3,172	407	14,776
Totals	*325,883	87,541	34,588	12,658	129,511
1926					
January	24,467	8,025	2,286	1,720	9,179

*Revised.

Truck Shipments Gain

Washington, March 9.—Shipments of electric industrial trucks and tractors in January were larger than in December, domestic tractor shipments being 18 compared with 12, and all other types 86 compared with 85. Exports fell from ten to three. Following are further comparisons:

SHIPMENTS OF ELECTRIC INDUSTRIAL TRUCKS AND TRACTORS IN NUMBERS

1925	Domestic Tractors	Domestic All other types	Exports
Quarter ending March 31	42	251	41
Quarter ending June 30	49	277	50
Quarter ending Sept. 30	56	283	12
Quarter ending Dec. 31	39	293	24
1925 Total	186	1,104	127
January, 1926	18	86	3

Malleable Castings Output Highest on Record

Washington, March 9.—Production of malleable castings in January, totaling 75,658 tons was the heaviest on record since the department of commerce started compiling these figures in May, 1923. Shipments dropped to 55,393 tons in January from 58,890 tons in December, but bookings gained from 53,991 to 65,738 tons in the same period. Production in January was at 68.2 per cent of plant capacity compared with 59.0 per cent in December and 58.1 per cent in January, 1925. Following are further comparisons of bookings, production and shipments:

1924	Total tons produced	Per cent of capacity	Total tons booked	Monthly capacity
December	58,773‡	50.9	46,541	115,474
1925				
January	66,367‡	57.6	61,140	115,179
February	60,220†	53.0	49,673	113,530
March	61,245†	53.5	56,481	114,506
April	62,962*	55.1	58,001	114,195
May	61,003*	53.9	50,594	113,260
June	58,881*	51.5	47,303	114,284
July	57,229†	50.2	56,933	114,144
August	56,829*	49.6	48,691	114,455
September	58,573	51.3	49,832	114,217
October	68,234*	60.6	65,495	112,609
November	61,845*	55.8	55,627	110,793
December	65,878*	58.9	54,066	111,852
1926				
January	75,658	68.2	65,738	110,824

†Includes 4 plants reported idle.
*Includes 5 plants reported idle.
‡Includes 6 plants reported idle.

Stoker Sales Show Drop

Washington, March 9.—Sales of mechanical stokers in January totaling 72 were lower than in December, when 108 were sold, according to reports to the department of commerce from 13 establishments. Both fire tube and water tube installations decreased in December. Following are further comparisons:

	Stokers sold	Fire tube boilers	Water tube boilers
1923 Total	1,464	177	1,287
1924 Total	1,128	161	967
1925 Total	1,348	263	1,085
January	57	4	58
February	135	28	107
March	131	17	114
April	120	23	97
May	122	23	99
June	128	26	102
July	147	30	117
August	91	27	64
September	119	34	85
October	114	22	92
November	76	8	68
December	108	21	87
January, 1926	72	10	62

Iron ore shipments of the Grangesberg Co., one of the most important iron ore exporters in the world, totaled 7,629,000 metric tons for 1925, compared with 5,934,000 tons in 1924 and 5,064,000 tons in 1913.

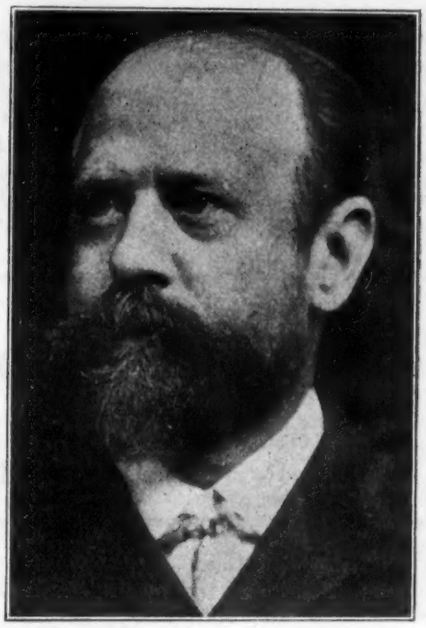
Industrial Men in the Day's News

William A. Rogers, Closing a Half Century in the Iron Industry

HIS share in the development of the Niagara region for the production of iron helped elect President McKinley in his "full dinner pail" campaign of 1896.

POSSESSED of three hobbies—art, travel and building of livable homes—he plans at 75 *to carry on these activities with accustomed vigor and discrimination.*

UNCLE JOE" BUTLER said of him: "His specialty is pig iron and more pig iron." Today he retires as one of the central figures in the history of the nation's basic iron industry.



WILLIAM A. Rogers, iron merchant and manufacturer, is retiring. Retirement for him, at 75, marks the consummation of a lifetime ambition, to spend the latter years of life in pursuit of his long cherished hobbies of travel and horticulture. It is a well-merited rest this prominent figure in the nation's iron industry has earned after half a century of contribution. His is a life story rich in the romance of American industry.

Born in Berkshire, N. Y., Sept. 8, 1851, Mr. Rogers' early life was passed in Cincinnati, his father being a noted physician in the Queen City. The boyish desire of the man who later was to become head of many important corporations, was to engage in horticulture, and contrary to parental desire he did engage in this occupation for a short time in Covington, Ky. Finding this vocation held more of pleasure than profit, he yielded to his father's wish, entered Yale university and emerged in 1874 with the degree of bachelor of philosophy.

Returning to Cincinnati Mr. Rogers entered the brokerage of L. R. Hull & Co. in December, 1874, and thus laid the cornerstone of a business structure that was to endure more than half a century. In those days cotton, peanuts and pig iron were the principal products of the South and Hull & Co. dealt in all three. The interest of the new junior clerk gradually centered in iron, with the result that with an associate he formed the firm of Rogers & Trivett. Mr. Trivett remained in charge of the office while Mr. Rogers went on the road. The responsibilities of the new business weighed heavily upon both. Mr. Trivett died three months after founding of the partnership.

Determined to continue in this field, Mr. Rogers interested his roommate, Archer Brown, then managing editor of the old *Cincinnati Gazette*, and the firm of Rogers, Brown & Co. was founded in 1880. From its beginning the alliance enjoyed success and subsequently received into the partnership B. B. Meacham, M. C. Armour, W. C. Herron, A. A. Fowler, W. T. Shepard, E. L. Billingslea, J. K. Pollock, William S. Rogers, Standish Meacham and Oswald Fowler. Mr. Brown died in 1904, Mr. Billingslea in 1918, and Mr. Herron in 1911 following his retirement in 1902. Mr. Armour retired in 1917.

In 1890 Frank B. Baird of Buffalo obtained options on the Tonawanda Iron & Steel Co. in that city, and interested Mr. Rogers in this furnace, then the only one in the Niagara frontier region. Quick to see the future possibilities of this region, the latter and associates, including D. B. Gamble, of Procter & Gamble, took over the property. Thus was established a precedent followed thereafter, that of having individuals rather than the partnership provide capital for the greater expansions which were to follow.

Subsequently the partners were interested in blast furnaces in Tennessee and Michigan, but these were not operated profitably after some years and Mr. Rogers moved to Buffalo to be closer to the productive units. A second furnace was erected at the Tonawanda plant and placed in blast in 1895.

Completion of this unit was made a gala event. President-elect William McKinley, from his home in Canton, O., released an electric spark which lighted the first fire in the new stack, and made the development one of the high lights in his successful presidential campaign.

Soon the Buffalo Union Furnace Co. came into existence, the Lackawanna Steel Co. plant was removed from Scranton to Buffalo, and in 1902 with the cooperation of the Goodyear rail and coal interests the Buffalo & Susquehanna Iron Co. was founded

and two furnaces were erected. The Buffalo & Susquehanna Co. was merged with the Rogers-Brown Iron Co. in 1909, additional furnace units being added in 1911 and 1912. Mr. Rogers, with allied interests, also started and became president of the Punxsutawney Iron Co., the Niagara Iron Mining Co., and the Munro Iron Co. He also has held executive positions with the Iroquois Iron Co., the Cleveland Furnace Co., the Buffalo Steamship Co.. the Cascade Coal & Coke Co., the Marine National and Erie County Savings banks, Buffalo.

When he became chairman of the board of Rogers-Brown Iron Co. in 1923 his retirement from active service began. Another step in the same direction was taken when the new corporation of Rogers, Brown & Crocker Bros., Inc., took over the business of Rogers, Brown & Co. and Crocker Bros., Mr. Rogers accepting no official position with the consolidation. Finally, in February, 1926, he resigned as chairman of the board of the productive unit, that office being abolished simultaneously.

In Buffalo the name of William A. Rogers is synonymous with community service. For 20 years he has been chairman of the board of trustees of the Y. M. C. A. He was the chairman of the first community war fund, of which the present Buffalo joint charity fund is an offspring. He has been chairman of the art committee of the Albright art gallery and vice president of the Buffalo Fine Arts academy for years.

Mr. Rogers' philanthropy has been as generous as it has been varied. Few men have traveled more widely than he. He has visited practically every section of the world save Siberia and Central Africa. At the age of 70 he crossed the Andes by mule train and is now in the midst of a five months' cruise. A few years ago a summer home was established in Maine where he intends to indulge in horticultural hobbies during spare moments. He plans also to continue his travels by winter and his gardening by summer.

Men of Industry

Personal News of a Business Character Pertaining to the Iron and Steel and Related Fields of Enterprise

JAMES W. CAMPBELL has been elected president and treasurer of the Cleveland Wire Spring Co., Cleveland. Mr. Campbell joined the company when it was incorporated in 1892, having been with the former Cleveland Rolling Mill Co.

Charles H. Erickson has been elected vice president and general superintendent of the company. Mr. Erickson entered the spring industry in 1893 with the Washburn Moen Mfg. Co., Worcester, Mass., under C. S. Marshall, now with the American Steel & Wire Co., Worcester.

* * *

Mark L. C. Wilde has been appointed Philadelphia manager for the Colonial Steel Co., with offices at 308 North Fifteenth street.

* * *

A. B. Holcomb has been appointed Pittsburgh district manager for the Clark Controller Co., Cleveland, with offices at 994 Union Trust building.

* * *

W. Allen Grubb has been appointed engineer for the Portland Cement association, at Seattle. Mr. Grubb is a graduate of the University of Washington.

* * *

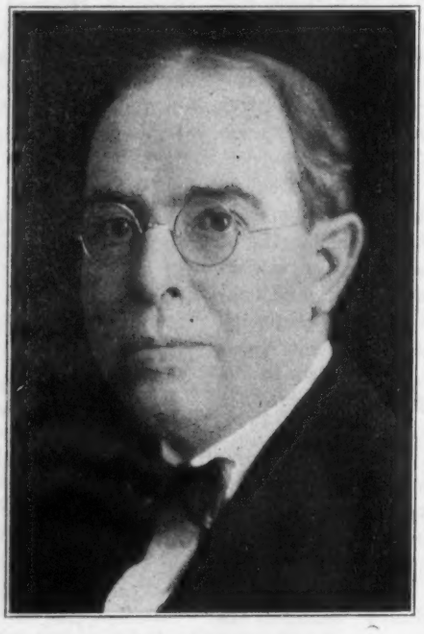
L. Potter, formerly continental representative of Federated Metals Corp., recently returned from Germany and has associated himself with Merchant Trading Co., New York.

* * *

Robert F. Herrick Jr., formerly treasurer, has been elected vice president and general agent of the Saco-Lowell Shops, Boston. D. W. Hunter has been promoted from assistant treasurer to treasurer.

* * *

George E. Wisner, general manager



JAMES W. CAMPBELL

of the Carnegie Steel Co. plants at Mingo Junction, and Bellaire, O., has resigned effective July 1. Mr. Wisner has been with the Carnegie company 40 years.

* * *

R. E. Hudson has been placed in charge of the newly opened office of Greene Bros., Dallas, Tex., power plant equipment distributors, and will act in a sales capacity for several well known machinery companies in the southwest.

* * *

H. L. Rankin, formerly manager of the Canton, O., plant of the American Bridge Co., has been appointed manager of the company's plant at Toledo, O., succeeding the late M. J. Riggs. J. W. Peterson, formerly plant engineer, succeeds Mr. Rankin as manager of the Canton works.

* * *

John E. Fredrick, Kokomo, Ind., well known to the iron, steel and brass trade of the Middle West, is a candidate for the Democratic nomination for United States senator in Indiana. Mr. Frederick has been active in state and local industrial promotion, and is president of the state chamber of commerce.

* * *

W. R. Milnor and W. C. Darugh have joined the district sales force of the Foote Bros. Gear & Machine Co. at Philadelphia. H. H. Snell is in charge of the Philadelphia territory.

Manuel Granich has become sales engineer for the Foote Bros. Gear & Machine Co. at New York, where John R. Shaw is district representative in charge.

* * *

Ollison Craig has been appointed consulting engineer of Riley Stoker Corp., Worcester, Mass. Mr. Craig

graduated from the University of Illinois in 1909 and for 7 years thereafter was in the mechanical engineering departments of the University of Colorado, Vanderbilt university and Iowa State college. Later he was consulting engineer for the Chas. L. Pillsbury Co., Minneapolis, and research engineer with the Underfeed Stoker Co. of America until consolidation of that company with the Riley interest.

* * *

August A. Malik, of the Schoeller-Bleckmann Steel Corp., Vienna and Ternitz, Austria, is in this country on a business mission.

* * *

J. A. Eves, general manager of Todd Construction & Dry Dock Corp., Tacoma, Wash., has been elected secretary of the Birchfield Boiler Co.

* * *

E. A. S. Clarke, secretary, American Iron and Steel institute, has gone to Bermuda for a vacation and expects to return about March 25.

* * *

John V. W. Reynders, New York, consulting engineer, sailed Feb. 27 on the steamship OLYMPIC, on business connected with the American-Caucasion manganese ore concession.

* * *

J. E. Cooper, vice president, and R. E. Prichard, assistant treasurer, Stanley Works, New Britain, Conn., tool manufacturer, sailed recently for Belgium to complete details for establishment of a European branch.

* * *

D. A. Mannen, president of Mannen & Roth Co., Cleveland, sheet metal and ventilating contractors, has been elected president of the Sheet Metal Employers' association, at its annual meeting held recently in Cleveland.

* * *

Fred A. Fenton, formerly representative of Joseph T. Ryerson & Son Inc., Chicago, covering railroads and industrials on machine tools, has opened offices at 30 Church street, New York, as manufacturers' representative.

* * *

E. O. Beardsley and W. F. Piper, of Beardsley & Piper Co., Chicago, sailed from New York, Feb. 20, for a trip to England, Germany, Belgium and France in the interests of the company. They plan to arrange for the production of sandslingers in France.

* * *

W. C. Alcorn, former head of the stamping department of Transue & Williams Steel Forging Corp., Alliance, O., has resigned after 11 years service to become associated with the Richardson Co., Toledo, O., investment banker. Mr. Alcorn will have charge of the rebuilding of plants taken over by the Richardson Co., and will move to Toledo immediately.

* * *

C. G. Dunkle, secretary of Pittsburgh section of the American Chemical society, has been appointed to a research fellowship in mining and metallurgy at Carnegie Institute of Technology, Pittsburgh. Mr. Dunkle formerly was chemist with the H. J. Heinz Co., Pittsburgh.

* * *

J. L. Hilton, formerly identified with Heltzel Steel Form & Iron Co., Warren, O., has been engaged by the Meehan Boiler & Construction Co., Lowellville, O., as general superintendent and sales manager. Formerly Mr. Hilton was production engineer of the Sharpsville Boiler Works, Sharpsville, Pa.

* * *

Charles A. Bruning, formerly division superintendent of Willys-Overland Co., Toledo, has become superintendent of the Fremont Aluminum Castings Co., Fremont, O. Prior to his identification with the Overland company, Mr. Bruning was with the General Aluminum & Brass Mfg. Co., Detroit.

* * *

Herman Steinkraus has become representative of the Bridgeport Brass Co. at Cleveland. A graduate of Western Reserve university, that city, he has handled sales and organization work for the Cleveland Automatic Machine Co., and other organizations. For the past eight years he has been with the Osborn Mfg. Co., Cleveland, and resigned recently as general sales manager. As a captain in the World war he was awarded the D.S.C.

Mileage Rate Scale To Be Effective May 29

Washington, March 9.—Order of the interstate commerce commission Friday, making effective on May 29 the distance mileage scale as set up under the Jones & Laughlin decision as the basis of rates on manufactured iron and steel from the Pittsburgh district to St. Louis, prepares the way for final schedules after many months of consideration and an attempt to re-open the case.

The carriers participating in the transportation are required to give notice to the commission and to the shipping public by the usual 30 days' filing of schedules, The rates are to apply on manufactured iron and steel shipped in carloads from Pittsburgh and related points, Johnstown, Pa., Buffalo, N. Y., Wheeling and Benwood, W. Va., and Steubenville and Youngstown, O., to Indiana and Illinois points and to St. Louis. The commission's order provides that the roads establish rates in accordance with the scale in its report of last April, reported in the IRON TRADE REVIEW, April 23.

The Illinois classification territory lines, however, in addition to stating that they are to put the rates into effect on the basis of the distance scale, have advised the commission they expect to be able to file their tariffs not later than March 15, effective on statutory notice. The issuance of the order by the commission, setting May 29 as the time for the operation of the new schedules, may make some changes in the plans of the Illinois classification lines. It is usually desired by the roads that rates become effective at the same time. To avoid difficulties from varying effective dates, it is considered probable that all the rates may be adjusted to go into effect on May 29.

The new rates are to be based on the distance scale with the exception that the rates from Johnstown may be continued on the basis of the long-standing fixed differential of 1.5 cents over Pittsburgh.

Convention Calendar

April 6-8—American Oil Burner association. Annual convention and exposition, Book-Cadillac hotel, Detroit. Office of secretary, 350 Madison avenue, New York.

April 15-16—National Metal Trades association. Twenty-eighth annual convention, Hotel Astor, New York. J. E. Nyhan, Peoples Gas building, Chicago, secretary.

April 21-23—American Welding society. Annual meeting at Engineering Societies building, New York. Miss M. M. Kelly, 29 West Thirty-ninth street, New York, secretary.

April 22-24—American Electrochemical society. Meeting, Chicago Beach hotel, Chicago. Colin G. Fink, Columbia university, New York, secretary.

April 28-30—National Foreign Trade council. Thirteenth annual convention, Francis Marion hotel, Charleston, S. C. O. K. Davis, India house, 1 Hanover square, New York, secretary.

May 3-6—American Society of Mechanical Engineers. New England regional meeting, Providence, R. I. Calvin W. Rice, 29 West Thirty-ninth street, New York, secretary.

May 10-15—Association of Chemical Equipment Manufacturers Inc. Second chemical equipment and process engineering exposition, Public hall, Cleveland. Roberts Everett, 1328 Broadway, New York, secretary.

May 13-15—American Gear Manufacturers' association. Annual meeting at Book-Cadillac hotel, Detroit. T. W. Owen, 2443 Prospect avenue, Cleveland, secretary.

May 17-21—National Association of Sheet and Tin Plate Manufacturers. Fourth annual meeting at Hotel Greenbrier, White Sulphur Springs, W. Va. Walter W. Lower, 421 Oliver building, Pittsburgh, secretary.

May 17-22—American Supply and Machinery Manufacturers' association. Annual convention at Hotel Statler, St. Louis. F. D. Mitchell, 1819 Broadway, New York, secretary.

May 20-21—American Society for Steel Treating. Spring sectional meeting, Hotel Bond, Hartford, Conn. W. H. Eisenman, 4600 Prospect avenue, Cleveland, secretary.

June 7-10—Association of Iron and Steel Electrical Engineers. Twenty-second annual convention and exposition at Hotel Sherman, Chicago. John F. Kelly, 513 Empire building, Pittsburgh, secretary.

Koppers Companies Make Official Changes

At the annual meeting of the Koppers Co., Pittsburgh, a number of changes were made in the official personnel of the various subsidiaries.

H. B. Rust is chairman of the board of the Koppers Construction Co., and W. F. Rust is president. Other officers of the Koppers Construction Co. include these vice presidents: C. J. Ramsburg, Joseph Becker, Harold Doolittle, Halfdan Lee, and J. I. Thompson.

T. G. Janney, manager of the Chicago By-Products Coke Co. has been elected vice president and manager; D. MacArthur, manager of the Seaboard By-Product Coke Co. was elected vice president; J. T. Tierney was appointed manager of the Seaboard By-Product Coke Co.; E. L. Smith, manager of the Minnesota By-Product Coke Co., was elected vice president and manager.

F. H. Beebe, manager of the Western Gas Construction Co. was elected vice president and manager; J. P. Williams, manager of the Melcroft Coal Co., was elected vice president and manager; J. N. Forker, formerly purchasing agent of the Koppers Co. was elected vice president and manager of the American Tar Products Co.; D. M. Craig was appointed assistant to president, the Koppers Co.; F. W. Sperr Jr., was elected director of research, the Koppers Co.; W. L. Williams, was appointed purchasing agent, the Koppers Co.

The officers and directors of the Koppers Co. the parent company were re-elected.

To Make Mill Pipe

The Bethlehem Steel Corp., through a syndicate of bankers, has offered an issue of $35,000,000 of preferred stock for refunding and extension purposes. Part of the funds will go to build a pipe mill at Sparrows Point, Md. This will bring the company into a branch of finished steel production in which, heretofore it has not been engaged. Full details of the plans for the mill are not yet ready for announcement. Completion of the plant, according to company officials, will make Bethlehem a unit capable of producing every important steel product now on the market.

To Erect Coke Plants

The Central Steel Co., Massillon, O., shortly is to begin construction of a battery of coke ovens and by-product plant costing $3,000,000. Contracts for the improvement, which are to be paid for out of earnings without extra financing, will be awarded soon. The company has recently completed a new blast furnace which will begin operations about May 1.

The company has decided for the time being to lay aside recently discussed plans to split up the common stock and increase the dividend on common stock.

Plan Large Cement Works Near Birmingham

Birmingham, Ala., March 9.—Lindley C. Morton and associates will build a Portland cement plant here with an initial annual capacity of 1,300,000 barrels of cement. The works are to cost $2,500,000. Mr. Morton resides in Birmingham now. He is president of the Phoenix Portland Cement Co. of Pennsylvania, operating a plant at Nazareth, Pa., president of the American Cement Securities Corp. and a director of the Portland Cement association.

The new company the Phoenix Portland Cement Corp. will construct a Portland cement plant five and one-half miles west of Birmingham, at Powderly, Ala. The company has acquired 140 acres of limestone bearing land. The wet process of manufacture will be used, and the manufacturing units will be the largest ever installed in this country. The two rotary kilns will be the largest in the world, as they will be eleven feet three inches in diameter and 330 feet long. The largest kilns now in operation are 265 feet long. The grinding mills, which will be seven feet in diameter and forty feet long, will be the largest in the United States. Ground will be broken next week, and the plant will be completed about Jan. 1, 1927.

Boosts City as Center

That St. Louis is the "center of centers," is the burden of an attractive leaflet issued by the chamber of commerce of that city, in which a lesson in industrial astronomy is set forth. Midway between the geographical and population centers, St. Louis is shown to be close to the centers of cotton production, lead and zinc, cattle, wheat, corn, oats and other centers of production, some 12 in all. On these as stars the artist has built a figure similar to the constellations, that of the Veiled Prophet in the annual festive celebration of the city.

The leaflet is a feeler to bring inquiries for a second astronomical lesson, which is a book of 48 pages, supplied to national distributors by the St. Louis chamber of commerce.

Warwick Furnaces Idle Pending Court Case

No plans will be formulated by the Warwick Iron & Steel Co. with respect to its two blast furnaces at Pottstown, Pa., until after the United States district court at Philadelphia has taken further action in connection with the receivership of the Eastern Steel Co. Sometime ago the furnaces were advertised for sale for county taxes, but the sale was stopped by the district court at Philadelphia on application of Edward L. Herndon, receiver of the Eastern Steel Co.

The furnaces which had been held by the Eastern company under a 99-year lease, then were turned back to their owners under a forfeiture clause in the lease which provided for a penalty of $100,000 in case the lease was canceled prior to the expiration of the stipulated period. The Warwick company has attached all of the property of the Eastern company at the furnaces as security for the payment of the $100,000 forfeit. The furnaces will continue idle until further adjustment of the Eastern company's affairs and an adjustment with reference to the taxes unpaid on the Warwick property. W. S. Pilling is president of the Warwick company.

Sees Bright Future for Pacific Northwest

Seattle, March 6.—Speaking before the Seattle chamber of commerce, W. C. Franz, president of the Algoma Steel Corp. predicted a wonderful future for the Pacific Northwest due to cheap and abundant water power, ample raw materials and inviting markets, both domestic and across the Pacific. Mr. Franz did not disclose the immediate object of his visit to the Pacific Coast. He pointed out that there is a fine home market for iron and steel on this coast as a well as a great potential market in the Orient. He enlarged on the waterpower possibilities in Washington and stated that the main reason for the location of the Algoma plant at Sault Ste. Marie was that the potential waterpower offered there was 90,000 horsepower. While here he inspected the plant of the Pacific Coast Steel Co. as the guest of William Pigott, vice president. In his talk he stated that 650,000 tons of American steel are sold in Canada annually, much of it of grades not produced in Canada.

International Business Machines Corp., Esopus, N. Y., has increased capital from 200 to 750,000 shares no par value.

Here and There in Industry

Live Information Which Records the Expansion of Various Lines of Productive Enterprise

NUGENT STEEL CASTINGS CO., Chicago, has been reorganized and now is in charge of W. C. Frye and C. R. Messinger of Milwaukee and W. J. Nugent, Chicago, who have bought the interests of Charles Piez, chairman of the Link-Belt Co., and Prentiss Coonley of the Walworth Co. W. J. Nugent is president, Harold C. Osman secretary and C. A. McDonald treasurer. Directors are W. J. Nugent, W. C. Frye, C. R. Messinger, C. F. Messinger, J. M. Omstead and C. A. McDonald. A Delaware charter is being obtained. The company was organized in 1916 as the Electric Steel Co.

* * *

ANCHOR DRAWN STEEL CO., Latrobe, Pa., has elected D. R. Wilson president, G. W. Morrison vice president, W. W. Noble vice president and secretary and Charles Potter treasurer and assistant secretary.

* * *

AMERICAN SCREW CO., Providence, R. I., has elected officers as follows: Samuel M. Nicholson, president; George W. Thurston, vice president; Benjamin Thurston, general superintendent; Albert M. Duham, treasurer; Ernest I. Cassda, secretary.

* * *

HUBBARD & CO., Pittsburgh, J. W. Hubbard president, will start immediately to build a fireproof shovel plant to replace that burned a few days ago. It will be about one-third larger than the old plant. Other departments of the plant were not damaged by the fire.

* * *

HAMILTON MFG. CO., Two Rivers, Wis., manufacturer of printing supplies and furniture, dental supplies and office furniture, will expand its facilities considerably, especially in the production of metal work. An increase in capitalization is being made to finance the enlargement.

* * *

MASSILLON STEEL JOIST CO., Canton and Massillon, O., has elected J. E. Moss, Wheeling, O., president; Stanley Macomber, Massillon, first vice president and general manager; C. W. Anderson, Massillon, second vice president; E. E. Mosser, Canton, O., secretary and treasurer; Edwin P. Johnson, Canton, assistant secretary and treasurer. Directors include J. E. Moss, Stanley Macomber, E. E. Mosser, E. A. McClusky, I. M. Taggart and C. W. Anderson.

* * *

HARDIE-TYNES MFG. CO., Birmingham, Ala., has completed the first unit of machinery for the Guggenheim interests in the copper fields of Chile. Other units are to be built at once. Tests of the machinery were conducted recently before engineers of the Guggenheim companies and others.

* * *

KOEHRING CORP., Milwaukee, manufacturer of roadmaking machinery, gasoline shovels and similar equipment, has shipped 16 carloads to Florida. In 1925 15 per cent of this company's product went to that state and unfilled orders force overtime work at this plant to keep up deliveries.

* * *

MILLER MFG. CO., Fremont, O., recently organized with Charles J. Miller president and Joe Karlovetz manager, has taken over a plant formerly devoted to automobile manufacture and will start the production of aluminum flasks. Orders on books assure a good start. Mr. Miller is president of the Fremont Foundry Co. and Mr. Karlovetz formerly was superintendent for the Herbrand Co., Fremont,

* * *

FAFNIR BEARING CO., New Britain, Conn., manufacturer of ball bearings and ball bearings parts has re-elected the following officers: H. S. Hart, chairman of the board; E. H. Cooper, president; R. R. Searle, vice president; Maurice E. Stanley, vice president and secretary; E. R. Carter, assistant secretary; R. N. Hemenway, assistant secretary; A. G. Way, treasurer; G. S. Atwood, assistant treasurer.

* * *

AMERICAN HARDWARE CORP., New Britain, Conn., reports a successful year. Expansion included the purchase of a warehouse in Chicago. The following officers have been re-elected: George T. Kimball, president; Charles B. Parsons, first vice president; Benjamin A. Hawley, Carlisle H. Baldwin, Albert N. Abbe, George P. Spear, vice presidents; Isaac D. Russell, treasurer; William H. Booth, assistant treasurer; George Hildebrandt, secretary; Joseph C. Andrews, assistant secretary.

* * *

CITY BRASS FOUNDRY CO., Cleveland, will dismantle its plant as a foundry and move its organization and equipment to the enlarged plant of the Wellman Bronze Co., 6016 Superior avenue, Cleveland. The increased capacity of the Wellman Bronze Co. plant makes it one of the largest nonferrous foundries in Cleveland.

* * *

BLACK & DECKER MFG. CO., Towson, Md., has bought the patents and plant of the Marschke Mfg. Co., Indianapolis. The former company manufactures portable electric tools and the Indiana concern a line of grinders. The products of the two companies form a complete line, supplementing each other. The Indianapolis plant will be operated under the direction of F. W. and W. A. Marschke, founders of the business. Products will be sold through the Black & Decker organization.

* * *

OKLAHOMA STEEL CASTINGS CO., Tulsa, Okla., has completed extensive improvements, including transforming equipment and a special annealing furnace. The transformer is of 1500 kilo-volt-ampere type. The furnace is top-heating, of five tons capacity. A cleaning rom 50 x 100 feet, a pattern shop 50 x 90 feet and a laboratory have been added. The rated capacity now is 250 tons of steel castings a month. Ernest H. Cornelius is president and W. P. Brown superintendent.

* * *

MILWAUKEE ELECTRIC CRANE & MFG. CO., Milwaukee, is making shipments on an order of 32 cranes for the Long Bell Lumber Co., Longview, Wash. Election of officers of the company resulted in choice of Andrew Montgomery as president, Henry S. Wright vice president, Theodore Trecker vice president, A. J. Pitman secretary and treasurer. The officers and Henry M. Thompson form the board of directors. Other officials are: Arthur Hempel assistant general manager, George R. Hoffman chief engineer, Arthur Mayer estimating engineer, Leo Mayer chief draftsman, R. R. Sevenich assistant secretary

treasurer and Arthur Lex purchasing agent.

* * *

HOOKLESS FASTENER CO., Meadville, Pa., Lewis Walker president, has bought part of the property of the Meadville Theological school, Arch street, and will use it for an extension of its plant.

* * *

MEAD-PENN CO., formerly Phoenix Iron Works, Meadville, Pa., recently transferred to new owners at receiver's sale, has made considerable improvements in its plant and has resumed operations with a large order book.

* * *

BELMONT IRON WORKS, Philadelphia, has leased the plant of the Keystone Structural Co., Royersford, Pa., which has been rebuilt and equipped and is now operating, giving the Belmont organization three plants, the other two being at Philadelphia and Eddystone.

* * *

CHICAGO, PNEUMATIC TOOL CO., New York, has bought the George Oldham & Sons Co., Baltimore, pneumatic tools and appliances, effective Feb. 16. Manufacture of Oldham products will be continued and production will be carried on at the Detroit plant, 6201 Second boulevard. Sales will be combined and handled from the Chicago Pneumatic Tool Co.'s branches in this and foreign countries. Service will be furnished at the branch plants or at Detroit.

Schedule Joint Meeting

The Chicago section of the American Society of Mechanical Engineers, jointly with the mechanical section of the Western Society of Engineers, will hold a machine shop practice session March 24 in the Monadnock building. G. A. Pennock, technical superintendent, and J. B. Mudge, metallurgist, both of Western Electric Co., Hawthorne works, will present papers on "Tool Manufacture and Tool Making." "Maintenance and Upkeep" is the title of a third paper to be delivered by George Hodge, International Harvester Co.

Make Less Pig Iron

The 27 charcoal furnaces of Michigan produced 162,768 tons of charcoal iron in 1925, compared with 199,939 in 1924. The largest producing furnaces now in blast is that of the Cleveland-Cliffs Iron Co. at Marquette. It has a daily capacity of 120 tons.

Pictures Big Future for Alloy Steel Industry

The Central Steel Co., Massillon, O., enjoyed one of the most successful years of its recent history in 1925. The annual report of the company discloses that sales during the year amounted to $36,674,613 compared with $30,677,856 in 1924. Net earnings after charges and before dividends were $3,374,094 against $2,899,823 in the preceding year.

In his statement to stockholders, Chairman F. J. Griffiths expresses great optimism respecting the outlook for alloy steels. He says:

"The trend of the times is to alloy instead of carbon steels and thereby lessen the weight and increase efficiency. Within 10 years practically every industry using steel will be forced through competition to exploit alloy steel in their products. If our prediction is true alloy steel is but in its infancy."

During 1925 the company placed 254 new customers on the books and was able to turn its accounts receivable every 27 days and inventories every 46 days. Speaking of the automobile trade Chairman Griffiths said:

"The automobile trade during the last year has been reducing prices which was reflected in the price of alloy steel, making our market more competitive, but we have been able to cut overhead, systematize production and reduce labor costs per ton, so that the differential has been practically absorbed and earnings maintained.

"During 1925 we increased our plant and equipment account $523,010 and charged off a lump sum of $720,000 for depreciation, bringing the total reserve to $5,574.947. Surplus was increased by $1,859,669."

Iron and Steel Exports Listed by Countries

Washington, March 9.—Increases in January iron and steel exports from the United States came largely from the heavier buying of Japan and South American countries, further analysis of department of commerce data shows. Japanese imports of American steel gained from 14,222 tons in December to 21,628 tons in January. Argentina took 5126 tons more in the latter than in the former month. Chile increased its imports by 4804 tons.

Despite the drop in imports by the United States in January, Belgium tonnage gained from 8992 to 12,945 tons. Netherlands exports to the United States gained from 7294 to 8989 tons. Other principal countries exported less in January than in December. Following is a list of destinations of American exports and countries of origin of imports.

EXPORTS OF IRON AND STEEL BY COUNTRIES

Gross Tons

COUNTRIES	Jan., 1926	Dec. 1925
Belgium	384	1
Denmark and Faroe Islands	26	104
Finland	3	1
France	2,280	907
Germany	12	106
Greece	88	1,146
Italy	904	262
Lithuania	1	.....
Netherlands	71	105
Norway	226	91
Portugal	13	1
Rumania	454	696
Soviet Russia in Europe	2,698	2,034
Spain	61	331
Sweden	21	37
Switzerland	6	6
Turkey in Europe	49	39
United Kingdom	3.179	4,734
Canada	54,966	54,538
British Honduras	9	107
Costa Rica	250	191
Guatemala	3,969	927
Honduras	264	461
Nicaragua	339	971
Panama	1.208	699
Salvador	3.460	325
Mexico	6,291	6,717
Newfoundland and Labrador	64	138
Bermuda	6	30
Barbados	5	1
Jamaica	136	180
Trinidad and Tobago	523	725
Other British West Indies	84	130
Cuba	7,191	10,650
Dominican Republic	487	579
Dutch West Indies	156	220
Haitian Republic	780	254
Virgin Islands of U. S.	208	20
Argentina	9,182	4,056
Bolivia	85	183
Brazil	2.738	2,759
Chile	7.611	2.807
Colombia	7,219	5,001
Ecuador	54	210
Falkland Islands	1	.....
British Guiana	3	13
Dutch Guiana	96	73
Peru	4,759	2,608
Uruguay	475	521
Venezuela	6.944	5,310
Britsh India	5,891	3,450
British Malaya	1,250	.....
Ceylon	1	104
China	3,025	1,517
Java and Madura	453	395
Other Dutch East Indies	3,491	751
Hongkong	43	75
Iraq	31	.....
Japan, including Chosen	21,628	14,222
Kwantung leased territory	10	37
Palestine and Syria	4	69
Philippine Island	5,466	4,440
Siam	2	3
Australia	1,621	2,137
British Oceania	4	5
French Oceania	2	2
New Zealand	211	239
Belgian Congo	1	.....
British South Africa	985	992
British West Africa	7	2
Egypt	207	131
Other French Africa	4	.....
Liberia	23	20
Morocco	49	4
Portuguese East Africa	137	92
Other countries	.....	1,517
Total	174,585	142,209

IMPORTS OF IRON AND STEEL BY COUNTRIES

Gross Tons

	Jan., 1926	Dec., 1925
Austria	21	43
Belgium	12,945	8,992
Czechoslovakia	545	101
France	7,721	10,857
Germany	12,101	13,263
Lithuania	1,530	.....
Netherlands	8,989	7,294
Norway	24	8
Sweden	1,996	2,984
Switzerland	1	1
United Kingdom	18,261	23,068
Canada	5,387	7,348
Mexico	34	22
Other British West Indies	103	123
Cuba	16	5,614
Dominican Republic	62	.....
British India	9,329	13,553
China	1	1
Japan, including Chosen	1	11
Other countries	.....	5,117
Total	79,067	98,400

Obituaries

JAMES H. NUTT, secretary of the Western Bar Iron association and the Western Sheet and Tin Plate Manufacturers' association, and one of the founders of the Amalgamated Association of Iron, Steel and Tin Plate Workers died at his home in Youngstown, O., March 7. Born in Worcestershire, England, of a family of "tinners" Nov. 19, 1848, Mr. Nutt went to work in a tin mill when nine years old and was a sheet roller at 19. In 1868 he came to America and in 1876 became a heater in the former Brown-Bonnell mills at Youngstown, now part of the Republic Iron & Steel Co. Leaving the mill in 1891 to work as city commissioner of Youngstown, he was responsible for electrifying the street railways. Later when the labor bureau of the Mahoning Valley Manufacturer's association was organized, he became commissioner and greatly extended the scope of the association. He served as secretary of the bureau until 1906, when the Western Bar Iron association was organized with Mr. Nutt its first secretary, a position he has retained since. In 1912 Mr. Nutt helped organize and became secretary of the Western Sheet and Tin Plate Manufacturer's association. Besides serving as city commissioner of Youngstown, Mr. Nutt was member of city council several times and served on the board of education for several terms.

* * *

Willis J. Bowen, 81, head of a foundry at Hartford City, Ind., died recently at his home there after a short illness.

* * *

Martin Scheeler, aged 63, president of the Buffalo Wire Corp., Buffalo, and former secretary of the Buffalo Galvanizing & Tinning Co., died March 1 at his home in Buffalo.

* * *

Edwin Wright Robinson, aged 58, one of the early settlers of Punxsutawney, Pa., and owner of the Punxsutawney Foundry & Machine Co. there, died there March 6.

* * *

J. E. Schindler, 46 years old, foundry superintendent, Famous Mfg. Co., East Chicago, Ind., died at Chicago, March 7, following an operation. He was formerly with the Garden City Foundry Co. and Mineral Supply Co., both of Chicago, and was a past president of the Chicago Foundrymen's club.

* * *

George A. Sears, 57, president of the Union Bridge Co., Seattle, died suddenly March 2 while in Spokane on a business trip. Mr. Sears was widely known among bridge builders in the Northwest.

* * *

Arthur C. Davis, aged 45, branch manager for Crane Co., at Lima, O., and until four years ago with the Indianapolis office, died recently after a short illness. Mr. Davis located with Crane Co. 24 years ago.

JAMES H. NUTT

* * *

Thomas G. Whaling, vice president of the Westinghouse Lamp Co., died suddenly at a New York hospital March 1. Mr. Whaling joined the Westinghouse company in 1906 as assistant to the manager and served in various other capacities until his promotion to the vice presidency. He was born in Milwaukee in 1878 and was a graduate of Yale university.

* * *

Conrad A. Haertel, prominent manufacturer of Waukesha, Wis., died March 2 at the age of 76. He was born in Germany and came to America in 1856, settling at Waukesha. His father at that time conducted a hardware store, the outgrowth of which was a group of industries, including the Waukesha Malleable Iron Co., now owned by General Motors Corp.; the Spring City Foundry Co., the Waukesha Brass Foundry Co., and the Waukesha Motor Co., of which Mr. Haertel was the first president and chairman of the board at his death.

* * *

Graham Rhoads, vice president of the Winslow Boiler & Engineering Co., Chicago, died suddenly Feb. 23 in New York, where he had maintained his headquarters for several years, at the age of 56. Mr. Rhoads formerly was in the insurance business in Chicago for some 20 years, and organized the Winslow company in 1916, serving as general manager until 1923.

* * *

L. S. Schmidt, 60, president of the S. R. Smythe Co., Pittsburgh, contracting engineer, died suddenly March 4 in Detroit after an attack of acute indigestion. Mr. Schmidt was born in Fremont, O., and became associated with the S. R. Smythe Co. ten years ago as chief engineer. Six months ago he was elected president. At the time of his death he had gone to Detroit and the River Rouge plant of the Ford Motor Co., where the Smythe company is installing a series of open-hearth furnaces.

* * *

Elias E. Gunnell, former president of the Manitowoc Shipbuilding Corp., Manitowoc, Wis., died unexpectedly at his home in that city Feb. 26, about 60 years old. Born near Dublin, Ireland, he was assistant superintendent of a shipbuilding plant at the age of 21. Later he was with the Wheeler Shipbuilding Co., Bay City, Mich., the Chicago Shipbuilding Co., and the Bath Shipbuilding Co., Bath, Me., now being liquidated as Bath Iron Works. With associates he acquired the Manitowoc yards from Burger Bros. in 1901, and directed the wartime activities of the company. When the present corporate entity was formed in 1920, Mr. Gunnell retired from presidency to become a consulting engineer and president and treasurer of the Maritime Securities Co.

An address entitled "Metallography of the Iron-Chromium Alloys" was presented before the New York chapter of the American Society for Steel Treating at its regular monthly meeting, Feb. 24, by Edgar C. Bain, Union Carbide & Carbon Research Laboratories, Inc., New York.

British Steel Gains

(*Concluded from Page 667*)

tinent is the resumption of work at the Charleroi plants. However, prices have not been much affected owing to the gradual development of operations following a seven-months closedown. Germany shows signs of revival in export markets and has shipped fair quantities of wire products to Australia. Belgian merchant bars have been sold to India at £5 6s ($25.70) f. o. b. Antwerp. The French are again beginning to feel the effects of German competition on foreign markets. German makers have obtained an order for 2000 tons of rails for the Zagreb municipal streetcars in Yugo-Slavia. They also have orders for finished steel for Brazil, Egypt, and South Africa. Luxemburg blast furnaces have received considerable inquiries from France since makers in that country find it difficult to meet the demand. The Saar steelworks are active. Apart from the Roechling plants they are under French control. They have received orders for heavy tonnages of fish plates for the German railroads through the medium of the German Stahlwerks Verband, and also subsidiary orders from French concerns for rails. They have been awarded 6000 tons of permanent way material for Chile. In Belgium the tendency of prices is easier, although certain concerns occupied with recently obtained American orders refuse to cut prices. Belgian bar mills find it difficult to compete against the Germans, who quote £5 6s ($26.70) f. o. b. Hamburg. Belgian rails for export are as low as £5 10s ($26.20) with mills booked well ahead.

Pig Iron by Air Mail

LONDON, March 1.—(European Staff Service)—A consignment of special cylinder pig iron was despatched by air-mail to the Continent Feb. 11 by British Pig Iron, Ltd., Westminster, London. This is believed to be the first occasion on which airplane service has been utilized for the transport of pig iron.

America Best Buyer of British Iron

Birmingham, Eng., March 1.—(*European Staff Service*)—Exports of pig iron from Middlesbrough to foreign destinations totaled 18,678 tons in January, compared with 22,285 tons in December. In addition 17,341 tons were despatched coastwise. America was much the largest customer, taking 7500 tons. The other most important buyers were Belgium, receiving 3784 tons, Denmark 2390 tons, Italy 1722 and Australia 1025 tons. Other foreign buyers took ununder 1000 tons.

Manufactured iron and steel exports total 56,611 tons, a figure which was exceeded last year only in March and October. India was far and away the best customer, receiving 17,069 tons of manufactured steel, this being the heaviest recorded shipment since the imposition of the Indian tariff in June, 1924.

Belgian Steel Trade Picking Up

BRUSSELS, March 1.—(*European Staff Service*)—Furnaces and mills in the Charleroi district are again showing signs of activity. Strikers are returning to their posts, but progress is slow after such a prolonged shutdown. The Usines de la Providence have blown in only 50 per cent of their stacks. Operations of steel plants and rolling mills will commence soon. At the Usines Metallurgique du Hainaut coke ovens have been relighted and repair work is under way in the steel plant. At Sambre et Moselle two furnaces out of four are blowing. At Thy le Chateau one furnace out of four is being operated. Half of the rolling mills are now working and several others are ready.

With the exception of the Charleroi district, which is still suffering from the strike, conditions in the metallurgical industry are satisfactory. Deliveries are extended. Export demand for pig iron is brisk. In fact, the export market in general is more active than the domestic. This is due, to some extent, to quietness in the building trades. The Societe des Ateliers La Construction has closed its doors and does not expect to open again this year. This plant employs 500 men. The Laminoirs a Toles de La Louviere has also suspended operations.

Demand for semifinished steel products continues to exceed capacity of mills. This situation will be relieved as soon as Charleroi mills begin delivering. Basic bessemer blooms are offered for export at £4 1s ($19.60) and billets bring £4 9s 6d ($21.50) f.o.b. Antwerp.

The finished steel market is spotty. Structural shapes and plates are soft due to stagnation in the building trades. The price of £4 17s ($23.50) has been reported on several specifications covering large shapes. Bar mills are booked well ahead but are willing to take on new business on the basis of £5 10s ($26.55) f.o.b. Antwerp. Plates 3/16-inch thick and heavier are quoted at £5 10s ($26.55). Central America is buying wire rods in Belgium which they will transform into nails in their own country. Rods are quoted at £5 15s ($27.80), and concessions are being made to meet German competition.

Franc—$0.045

British Export Prices On Lower Level

London, March 1.—(*European Staff Service*)—The Board of Trade returns for January, 1926, give the average British export prices per gross ton for a certain number of iron and steel products. These prices are compiled from actual contracts which were made several months ago and this accounts for the difference between these quotations and the base prices regularly quoted in our columns.

The accompanying table shows the price of each of the seven principal commodities exported from Great Britain. Compared with those prevailing in the corresponding period of last year, prices have dropped, with the exception of that of ferromanganese.

The price of foundry pig iron was 1d ($0.02) more than in December 1925 but £1 0s 6d ($4.97) less than in January 1025; ferromanganese was 14s ($3.36) more than in December 1925 and £1 15s 8d ($8.61) more than in January 1925. Carbon billets were 16s 2d ($3.88) less than in December 1925 and £1 1s 2d ($5.13) less than in January 1925; beams were 11s 11d ($2.86) less than in December 1925 and £1 19s 3d ($9.52) less than in January 1925. Galvanized sheets were 4s ($0.96) less than in December 1925 and £2 0s 4d ($9.78) less than in January 1925; tin plate was 8d ($0.16) more than in December 1925 but £3 13s 11d ($17.89) less than in January 1925. Plates were 16s 2d ($3.88) less than in December 1925 and £1 9s 6d ($7.13) less than in January 1925.

January, 1926

	£	s	d	$
Foundry pig iron	3	17	9	18.81
Ferromanganese	16	6	0	79.04
Carbon billets	13	8	0	64.97
Beams	8	9	6	41.08
Galvanized sheets	18	8	0	89.22
Tinplate	21	2	5	102.43
Plates	9	18	6	48.09

Belgian Output Drops in January

BRUSSELS, March 1.—(*European Staff Service*)—A considerable drop in iron and steel production was registered in Belgium during January. The output of pig iron was 137,790 metric tons, against 161,480 tons in December, 1925. The number of blast furnace stacks in operation at the end of the month was 37, compared with 32 on Dec. 31. The production of steel ingots and castings in January was 116,180 tons, against 158,020 tons in December, 1925. The January tonnage included 110,930 tons of steel ingots and 5250 tons of steel castings. The output of finished steel was 106,260 tons, compared with 129,930 tons in December, 1925. The following table gives these figures in metric tons, compared with the monthly averages of previous years.

Monthly average	Coke	Pig iron	Steel ingots and castings	Finished steel
1913	293,585	207,055	205,550	154,820
1923	248,330	178,995	191,410	161,950
1924	346,650	234,000	238,380	198,115
1925	342,360	211,785	200,880	164,940
1926				
Jan.	321,220	137,790	116,180	106,260

Construction and Enterprise

Concise and Timely Business Building Opportunities from the Field of Industry

LOS ANGELES—Advance Auto Body Works will build a 2-story plant at Mission road and Macy street.

LOS ANGELES—Madsen Iron Works has let contract to Union Iron Works for additions to increase capacity 40 per cent. Martin Madsen is president.

LOS ANGELES—Hammer & Bray Co., manufacturer of stoves and ranges has let contract to the Austin Co. of California for a plant 85 x 145 feet at South Park avenue and Florence avenue.

LOS ANGELES—Southern California Iron & Steel Co., A. W. Clawson chief engineer, has awarded general contract to Union Iron Works for a mill building and other additions to increase its capacity.

SAN FRANCISCO—American Brass & Bronze Works, 124 Juniper street, is building a 1 and 2-story addition to its foundry.

SOUTHINGTON, CONN.—Peck, Stow & Wilcox Co. is building a 2-story addition 97 x 100 feet.

GAINESVILLE, FLA.—Durst Iron Works, Orange street, will rebuild its plant recently burned, and install some new equipment.

CHICAGO—Western Name Plate Co., 4638 West Huron street, Henry Parks president, will build a 1-story office building 120 x 125 feet at 4600 West Superior street.

CHICAGO—Thermodine Co. of Illinois, 111 West Monroe street, has been incorporated with $50,000 capital to manufacture heating devices and apparatus by None Daly, Harry E. Kelly and Will A. Kelly.

CHICAGO—Nechin Steel Construction Co., 3515 Ogden avenue has been incorporated with $150,000 capital to manufacture structural steel and ornamental iron by Abraham Nechin, Benjamin Nechin and Herman Nechin.

CHICAGO—Crane Co., D. T. Crane president, 836 South Michigan boulevard, has let general contract to William Adams Co., 209 South LaSalle street, for plant addition and train shed three stories, 120 x 475 feet at Kedzie and Forty-first streets.

CHICAGO—Swanheld Metal Lath Corp., 818 East Fifty-seventh street, has been incorporated with $100,000 capital to manufacture machinery and appliances by Theodore J. Nelson, John M. Swanson and William R. Donisch. Ray E. Lane, 160 North LaSalle street, is correspondent.

CHICAGO—Shere Metal Products Co., 549 West Washington street, has been incorporated with $5000 capital to manufacture lubricating devices, hydraulic tools and automobile accessories by W. H. Pierce, Anna V. Pierce and Joseph J. Platzer. Victor Winnen, 803 West Madison street, is attorney.

WABASH, IND.—Frank Diehl Inc. has been incorporated to manufacture woodworking tools by Frank Diehl, Jessie E. Diehl and George J. Favell.

CEDAR RAPIDS, IOWA—Northwestern Bell Telephone Co. will build cable plant to cost $125,000. H. M. Morrison is local manager.

CEDAR RAPIDS, IOWA—P. M. Lattner Mfg. Co. is building a 2-story plant for the manufacture of steam and mill supplies.

MARSHALLTOWN, IOWA — Prier Brass Foundry will take bids soon for addition to plant. Harry E. Reimer is architect.

Where additional information is presented, reference is made to date of issue in which previous item appeared.

MARSHALLTOWN, IOWA—Fisher Governor Co. will take bids about March 15 for addition to plant to cost $35,000. Harry E. Reimer, is architect.

MASON CITY, IOWA—United Light & Power Co. has awarded contract to the General Electric Co. for 7500 kilowatt turbine and will build to double capacity of power plant at cost of $1,000,000.

NEWTON, IOWA—Maytag Co. has awarded general contract to the Lanning Construction Co., Oskaloosa, Iowa, for a 2-story gray iron foundry 135 x 196 feet.

BALTIMORE, MD.—Trimble & Fink Mfg. Co., recently incorporated, 927 Linden avenue, manufacturer of screw machine products, is having plans made for additions to its present plant.

BOSTON—I. Sack Cabinet Hardware Co. has been incorporated for $100,000 to manufacture and sell hardware, etc., by Israel Sack, Roxbury, Mass.; Abraham A. Lyman, Dorchester, Mass., and Robert Leavitt.

SPRINGFIELD, MASS.—General Service Machinery Co. Inc, has been organized with 500 shares no par value capital stock by Noland W. Brown, David C. Cox, Louis G. DeNagy, Harold Norton, and Claude A. Parker, all of Pittsfield, Mass., and Carl C. King, Springfield

BAY CITY, MICH.—Industrial Works Sales Corp. has been incorporated with $5000 capital to deal in railway cranes, pile drivers and railroad appliances by Edward S. Clark and Ernest B. Perry, 2230 Center avenue.

DETROIT—Detroit Steel Conveyor Co. is having plans made for a 1-story plant.

DETROIT—Hollins Pattern Works has been incorporated with $15,000 capital to manufacture patterns and tools by Frederick W. Hollins, William R. Mitchell and Anthony C. Frederick, 2936 McClelland street.

DETROIT—Imerman Screw Products Co. has been incorporated with $150,000 capital to manufacture metal products by Ella Imerman, Stanley Imerman and John Imerman, 40 McLean avenue.

DETROIT—Detroit Steel & Conveyor Co., R. C. Mahon president, 8602 Mt. Eliott avenue, is building a 2-story plant 139 x 140 feet. General contract to Albert A. Albrecht, 1130 Penobscot building.

DETROIT—Trio Automatic Screw Products Co. has been incorporated with $10,000 capital to manufacture screw machine products by Edward H. Hopson, George L. Buffington and Augie E. Pommerenck, 9458 Hayes building.

DULUTH—Zollner Machine Works, with a capital of $50,000, has been incorporated by Theodore Zollner, 4515 McCulloch street, to manufacture machinery.

FRAZEE, MINN.—Ottertail Power Co. has awarded general contract to the Lauritzen Construction Co., Fergus Falls, for brick and concrete hydro-electric plant and flume adjacent to dam near Frazee.

McKINLEY, MINN.—Contract has been let to the Worden-Allen Co., Milwaukee, for structural steel and erection of crushing and dripping plant for Corison Mine.

MINNEAPOLIS—Marrin Foundry Co. has been incorporated with a capital stock of $50,000 by Martin Marrin, 1514 East Nineteenth street, to manufacture castings.

MINNEAPOLIS—Wonder Frixum Drill Co. has been incorporated by A. L. McLachlan and Mary E. McLachlan with a capital of $50,000 to manufacture drills and machinery.

MINNEAPOLIS—Simplex Heat Regulator Co. has been incorporated by J. C. Kersteter, 1510 West Thirty-third street, with a capital of $50,000 to manufacture heat regulators.

MINNEAPOLIS—Tyra Co., with a capital of $50,000, to manufacture sheet metal products, has been incorporated by H. Van Valkenburg, 1941 James avenue South.

MINNEAPOLIS, MINN.—Strong-Scott Mfg. Co., 414 South Third street, builder of flour mill machinery, is having plans made for a 2-story plant.

MINNEAPOLIS—Bids will soon be taken on Cedar avenue bridge over Mississippi river, 2,800 feet long, reinforced concrete and steel, 3 arch spans, at cost of $1,100,000. N. W. Elsberg is city engineer.

MINNEAPOLIS—Great Northern railway has awarded general contract to S. J. Siverson, 3100 Forty-third avenue south, for 1-story 32x125 brick and concrete addition to freight warehouse at Washington street and Forty-fourth avenue north.

MINNEAPOLIS—Kausel Foundry Co., John Kausel, president, will begin work in March on foundry at East Broadway and Northern Pacific tracks, to consist of 4 buildings of 1-story each of concrete block construction. Main building will be 46x86, two other buildings 20x36 each and boier room 20x20.

PALMER, MICH.—Contract has been let to the Worden-Allen Co., Milwaukee, for structural steel and erection of crushing plant for Volunteer Mine.

ST. PAUL—St. Paul Structural Steel Co. has been awarded contract for structural steel in 2-story 50x119 factory at 78 Chicago avenue for the Gopher Stamp & Die Co. Geo. A. Blewett, 646 Endicott building, is the architect, and N. P. Fransen & Co., 630 Endicott building, is the general contractor.

ST. PAUL—Contracts for structural steel has been let to the St. Paul Foundry Co. and reinforcing steel to the Concrete Steel Co., in the brick manufacturing plant at South Park for the Hardstone Brick & Engineering Co. 2, 3 and 4 stories, 40x80 reinforced concrete and brick with complete machinery. John R. Schmit, president, is the contractor.

ST. PAUL—Contracts for reinforcing steel has been awarded to the Kalman Steel Co., structural steel to St. Paul Foundry Co., and steel sash to Concrete Steel Co. on 1-story 100x300 reinforced concrete and fireproof factory for the Motor Power Equipment Co., near new Ford plant. C. H. Johnston, 715 Capital Bank building, is the architect, and Paul Steenberg Construction Co., 914 Builders Exchange, is the general contractor.

ST. PAUL—Contracts have been awarded to the Concrete Steel Co. for reinforcing steel

(*Continued on Page* 686)

Weather Deters Jobbers' Sales

Prices Generally Firmer Despite Quietness—Demand Better

CONTINUED winter weather is detering buying of iron and steel products from warehouses. The normal increase in demand is being delayed. Better deliveries by mills in many cases are cutting into jobbers' sales. Prices are spotty, weakening in New York and strengthening some in the Middle West.

Jobbing demand in the New York metropolitan district is picking up steadily, with the outlook for March the best this year. This is accompanied by a stronger tendency in shapes and sheared and universal plates, a development supported by firmer prices at the mills. Floor plates are easier, following a decline of $4 a ton at some of the mills. In some districts an actual reduction has been put into effect at the warehouses, and a downward revision is expected shortly at New York.

Warehouse products at Pittsburgh are holding well at the quoted levels. Demand is general. February sales compare favorably with those of January. March buying is expected to be heavier.

Buffalo iron and steel warehouses report exceptionally cold March weather is holding back demand which normally would develop. Improved mill service also is an unfavorable factor from a warehouse standpoint.

While dullness still rules in the warehouse business at Cincinnati, jobbers believe that the market presents healthier aspects than for several weeks. Structurals appear to be moving in better volume. Despite the lack of buying, prices are firm.

In number, warehouse orders in the Chicago district are running ahead of this period of last year, but the tonnage involved is no greater. Light section structurals give evidence of better demand. Prices generally are stable.

Philadelphia jobbers continue to quote 2.90c as the firm minimum on bars, with occasional shading in blue annealed sheets. Otherwise the market is firm with the present price condition the best in a long time.

Prices revised recently by Cleveland warehouses are being adhered to rigidly and less shading of list quotations is encountered. Volume of sales is steady, some jobbers reporting a slight increase over the same period of February.

Quotations at Cents Per Pound at Leading Market Centers

STEEL BARS

Boston	3.265c
Buffalo	3.30c
Chicago	3.00c
Cincinnati	3.30c
Cleveland	3.00c
Detroit	3.15c
Los Angeles	3.05c
New York	3.24c
Philadelphia	2.90c to 3.20c
Pittsburgh	2.90c
Portland	3.00c
San Francisco	3.30c
Seattle	3.25c
St. Louis	3.15c
St. Paul	3.25c

IRON BARS

Boston	3.265c
Buffalo	3.30c
Chicago	3.00c
Cincinnati	3.30c
Detroit	3.15c
New York	3.24c
Philadelphia	2.90c to 3.20c
St. Louis	3.25c

REINFORCING BARS

Boston	3.265c to 3.50c
Buffalo	3.30c
Chicago, billet	2.60c
Chicago, rail steel	2.00c
Cincinnati	3.30c
Cleveland	2.40c to 3.10c
Detroit	3.15c
Los Angeles, C. L.	3.05c
Los Angeles, L. C. L.	3.30c
New York	2.95c to 3.15c
Philadelphia	3.00c to 3.25c
Pittsburgh	2.50c to 2.60c
San Francisco, C. L.	3.35c
San Francisco, L. C. L.	3.80c
Seattle	3.50c
Youngstown	2.50c to 2.60c

STANDARD STRUCTURAL SHAPES

Boston	3.365c
Buffalo	3.40c
Chicago	3.10c
Cincinnati	3.40c
Cleveland	3.00c
Detroit	3.25c
Los Angeles	3.05c
New York	3.34c
Philadelphia	2.70c to 3.05c
Pittsburgh	3.00c
Portland	3.10c
San Francisco	3.30c
Seattle	3.35c
St. Louis	3.25c
St. Paul	3.35c

PLATES

Boston	3.365c
Buffalo	3.40c
Chicago	3.10c
Cincinnati	3.40c
Cleveland, ¼-inch and thicker	3.00c
Cleveland, 3/16-inch	3.225c
Detroit	3.25c
Detroit, 3/16-inch	3.45c
Los Angeles	3.15c
New York	3.34c
Philadelphia	2.70c to 3.05c
Philadelphia, 3/16-inch	2.85c to 3.20c
Pittsburgh	3.00c
Portland	3.25c
San Francisco	3.30c
Seattle	3.25c
St. Louis	3.25c
St. Paul	3.25c

NO. 10 BLUE ANNEALED SHEETS

Boston, 3/16-inch	3.915c
Buffalo	3.90c
Chicago	3.50c
Cincinnati	3.60c
Cleveland	3.25c
Detroit	3.65c
Los Angeles	3.75c
New York	3.89c
Portland	4.25c
Philadelphia	3.50c
San Francisco	3.75c
Seattle	4.50c
St. Louis	3.60c
St. Paul	3.75c

NO. 28 BLACK SHEETS

Boston	5.25c
Buffalo	4.60c
Chicago	4.10c
Cincinnati	4.55c
Cleveland	4.10c
Detroit	4.25c
Los Angeles	4.75c
New York	4.50c
Philadelphia	4.65c
Portland	5.25c
San Francisco	4.75c
Seattle	5.50c
St. Louis	4.60c
St. Paul	4.35c

NO. 28 GALVANIZED SHEETS

Boston	6.25c
Buffalo	5.90c
Chicago	5.25c
Cincinnati	5.65c
Cleveland	5.25c
Detroit	5.50c
Los Angeles (corr. 28 ga.)	6.00c
New York	5.65c
Philadelphia	5.85c
Portland	6.25c
San Francisco	6.00c
Seattle	6.50c
St. Louis	5.70c
St. Paul	5.60c

BANDS

Boston	4.015c
Buffalo	4.05c
Chicago	3.65c
Cincinnati	3.95c
Cleveland	3.65c
Detroit	3.80c
Los Angeles	3.90c
New York	3.99c
Philadelphia	3.75c to 3.90c
Pittsburgh	3.60c
Portland	4.25c
San Francisco	4.15c
Seattle	4.25c
St. Paul	3.90c

HOOPS

Boston	5.50c
Buffalo	4.05c
Chicago	4.15c
Cleveland	3.65c
Detroit	4.30c
New York	4.49c
Philadelphia	4.00c to 4.25c
Pittsburgh	3.60c
Seattle	5.00c
St. Paul	4.40c

COLD FINISHED STEEL

	Rounds and hexagons	Flats and squares
Boston	4.05c	4.55c
Buffalo	3.90c	4.45c
Chicago	3.60c	4.10c
Cincinnati	3.85c	4.35c
Cleveland	3.90c	4.40c
Detroit	3.85c	4.25c
Los Angeles	5.25c*	.....
New York	4.00c	4.50c
Philadelphia	4.00c	4.50c
Pittsburgh	3.60c	4.10c
Portland	5.00c*	.....
San Francisco	4.25c*	.....
Seattle	5.00c*	.....
St. Paul	3.85c	.....

*Rounds only.

COLD ROLLED STRIP

Boston, .100 inch, 500 lb. lots	6.30c
Buffalo	6.35c
Chicago	6.25c
Cincinnati	7.15c
Cleveland, over 500 lb. lots	5.95c
Detroit	6.20c
New York	6.25c
Philadelphia	6.25c
Pittsburgh	6.30c

FOREIGN IRON AND STEEL

New York duty paid

Swedish, hollow drill steel	15.00c
Swedish iron bars, round	6.75c
Flats and squares	7.00c

WELDED PIPE

Discounts from warehouse, New York City

Standard Steel Pipe

WROUGHT STEEL PIPE

	Black	Galvanized
⅛-inch butt	—23	+21
¼ to ⅜-inch butt	—36	— 3
½-inch butt	—46	—29
¾-inch butt	—51	—37
1 to 3-inch butt	—53	—39
2-inch lap	—40	—22
2½ to 6-inch lap	—48	—35
7 and 8-inch lap	—44	—17
9 and 10-inch lap	—38	—14
11 and 12-inch lap	—37	—12

WROUGHT IRON PIPE

	Black	Galvanized
¼ to ⅜-inch butt	+44%	+78%
½-inch butt	— 4	+19
¾-inch butt	—11	+ 9
1 to 1½-inch butt	—14	+ 6
2-inch lap	— 5	+14
2½-inch lap	— 9	+ 6
3 to 6-inch lap	— 3	+ 6
7 to 12-inch lap	— 3	+16

Industrial Business Changes

UNION DRAWN STEEL CO., Beaver Falls, Pa., has moved the location of several of its district sales offices. The New York office has been removed to room 1506 Tower building, 200 Madison avenue. The Philadelphia office is now located at room 939 Insurance Company of North America building, 1600 Arch street. The Chicago office is at room 1915 Tribune Tower, Michigan boulevard.

* * *

Nugent Steel Casting Co., Chicago, has changed its name to Southwest Steel Casting Co.

* * *

Peoria Foundry Co., Peoria, Ill., has changed its name to Fitzgerald Foundry Co.

* * *

Hilliard Corp. is the new name of the former Hilliard Clutch & Machinery Corp., Elmira, N. Y.

* * *

Acme Stamping & Brass Works, Zeeland, Mich., has changed its name to the West Michigan Brass Co.

* * *

Stanley P. Rockwell Co., metallurgical engineers, has removed to larger quarters at 66 Trumbull street, Hartford, Conn.

* * *

Booth Electric Furnace Co., Chicago, has moved its offices to room 1122 Monadnock building, 53 West Jackson boulevard.

* * *

Hamilton Press & Machinery Co., Detroit, has removed its offices from 516 Marquette building at 8316 Woodward avenue.

* * *

American Iron, Steel and Heavy Hardware association has moved its offices from New York to 503 Arch street, Philadelphia.

* * *

Reliable Cap & Set Screw Co., Chicago, has moved from 29 South Clinton street to 411 South Clinton street, to obtain larger facilities.

* * *

F. H. Crawford & Co., dealers in machinery, foundry equipment, steel and plant equipment, have moved their general offices from 299 Broadway, New York to 50 Church street.

* * *

Kirchner & Marshall, Pittsburgh, and Rogers Brown & Crocker Bros. Inc., have been appointed sales agents for pig iron produced by the Struthers Furnace Co., Struthers, O.

* * *

Roscoe Metalizing Co., Cicero, Chicago, Ill., is the new name of the Roscoe Metal Products Co. Capital has been increased from $15,000 to $25,000.

* * *

American Metal Products Co., Chicago, has appointed the Henry Cooper Supply Co., Springfield, Mo., sales representative in that territory.

* * *

Eastern Steel Co., Edward L. Herndon receiver, has removed its New York office to the twenty-seventh floor of the Woolworth building, 233 Broadway.

* * *

Upson-Walton Co., Cleveland, has moved its offices from 1010 Superior avenue, N. W., to 738 Superior avenue, in the Perry-Payne building.

* * *

Bardon & Oliver, Cleveland, manufacturers of lathes, have made the Milwaukee Machinery Co., 93 West Water street, Milwaukee, sales representative in that territory.

* * *

Climax Engineering Co., Clinton, Iowa, has appointed the Rapp-Huckins Co. Inc., 59 Haverhill street, Boston, district representatives for industrial power houses and engines.

* * *

Henry Disston & Sons, Inc., Philadelphia, have appointed John K. Desmond Philadelphia district manager of steel sales.

* * *

Lee Trailer & Body Co., whose general offices have been at 2343 South LaSalle street, Chicago, has removed the purchasing, accounting, service, traffic and engineering departments to the main plant at Plymouth, Ind. The sales department alone remains in Chicago.

* * *

Duisdeker Foundry & Mfg. Co., Pekin, Ill., has been sold to Albert V. Martens and associates who are forming a new corporation. The plant is continued in operation meantime.

* * *

Cummings Castings Co., headed by T. A. Cummings Jr., has bought the plant of the Nelson Foundry Co., 4533 Patterson avenue, and will operate it as a jobbing foundry.

* * *

Kingsbury Mfg. Co., Keene, N. H., has appointed the Syracuse Supply Co., Syracuse, N. Y., and the Milholland Sales & Engineering Co., Indianapolis, Ind., sales representatives in these territories.

* * *

Bearing Co. of America, Lancaster, Pa., has been bought by Philadelphia capitalists, headed by Frank M. Germane of the Timken Roller Bearing Co., who is president. Jack L. Straub will remain as vice president.

* * *

National Electric Mfg. Co., Pittsburgh, manufacturer of electric hammers, has opened a sales office at 208 Congress street, Boston, in charge of John L. Shea, and one at 5001 Clarendon street, Detroit, in charge of E. Earl Beatty.

* * *

Marks, Fiske, Zieger Co., Detroit, dealers in iron and steel, rails and railroad equipment, 2503 Twenty-fourth street, is moving its stock to a new warehouse at 126 Artillery avenue, where much larger facilities are available. Additional equipment has been installed.

* * *

Cuyahoga Steel & Wire Co., Bedford, O., manufacturer of cold-drawn carbon alloy steel bars, has established a district sales office at 1655 Union Trust building, Cleveland, in charge of John T. AuWerter, formerly representative of the Peerless Drawn Steel Co., Massillon, in Cleveland territory.

Iron and Manganese Ores and Minerals

Iron Ore

LAKE SUPERIOR ORES

Per Gross Ton Lower Lake Ports

Old range bessemer, 51½ per cent iron	$4.55
Mesabi bessemer, 51½ per cent iron	4.40
Old Range nonbessemer, 51½ per cent iron	4.40
Mesabi nonbessemer, 51½ per cent iron	4.25

EASTERN LOCAL ORES

Cents per unit delivered at Eastern Pennsylvania and New Jersey furnaces

Foundry and basic 53 to 63 per cent	9.00 to 10.50
Copper free low phosphorus 53 to 65 per cent	nominal

FOREIGN IRON ORE

Cents per unit, f.o.b. cars Atlantic ports

Spanish low phosphorus, 52 to 54 per cent	11.00 to 12.00
Algerian low phosphorus, 52 to 54 per cent	10.00 to 10.50
Riff low phosphorus, 65 to 66 per cent	9.50 to 10.00
Swedish and Norwegian low phosphorus, 68 per cent	11.00 to 11.50
Swedish foundry or basic, 66 to 68 per cent	10.00
Spanish foundry or basic, 50 to 54 per cent	8.50 to 9.50
Algerian foundry and basic, 50 to 54 per cent	9.25 to 9.75

Manganese Ore

Prices do not include duty at rate of 1 cent per pound of metallic manganese contained.

Brazilian, minimum 47 per cent.....nominal
Indian minimum 47 per cent.....nominal
Caucasian, 53 to 55 per cent.....
Washed, 42 cents c.i.f. tidewater

Fluor Spar

85 and 5 per cent grade

Washed gravel, Kentucky and Illinois mines, per net ton..	$17.50
Washed gravel, imported duty paid eastern tidewater, per net ton	17.50 to 18.25

Construction and Enterprise

(*Continued from Page* 683)

and the St. Paul Foundry Co. for steel sash in garage building at Sixth and Exchange streets, for Pence Auto Co., 800 Hennepin avenue, Minneapolis. 2 stories, 150x160, brick and reinforced concrete. C. H. Johnston, 715 Capital Bank building, is the architect, and Nasvik-Sauk Construction Co., 551 Gilfillan block, is the contractor.

KANSAS CITY, MO.—Black Sivalls & Bryson contemplate addition to fabricating plant 60 x 180 feet for manufacture of steel tanks. G. Raymond is branch manager.

KANSAS CITY, MO.—Sonken-Galamba Corp. has purchased Kansas Oil Refining Co. plant at Coffeyville, Kans., for wrecking purposes and will salvage machinery and equipment.

ST. LOUIS—Southern Wheel Co., F. C. Turner first vice president, Commonwealth building, Pittsburgh, is having plans made for two foundry units 80 x 260 feet and 65 x 226 feet.

BOULDER, MONT.—Montana Smelting & Refining Co. is selecting site for smelter to be built in spring. E. Strassburger, Butte, is engineer.

COLUMBUS, NEBR.—Northwestern Public Service Co., has awarded contract to Ford Schroeder for 15x42 addition to power plant, to cost $10,000.

FALLS CITY, NEB.—Chicago, Burlington & Quincy railway will build 4-stall roundhouse and turning table.

MADISON, NEBR.—City is contemplating building municipal power plant and electric lighting system to cost $88,000.

SPENCER, NEBR.—Contracts will be awarded about April 1, by the Northern Nebraska Power Co., for one-half mile earth dam on Niobrara river, power plant with latest type power plant equipment, to cost $500,000. A. W. Person, secretary, Fairmont, Nebr., in charge of building operations. Power Engineering Co., 621 Metropolitan Life building, Minneapolis, are the consulting engineers on the project.

ATLANTIC CITY, N. J.—Gilbert Machine Works has been incorporated with $100,000 capital by Leroy Gilbert, Roland G. Vansant and Thomas G. Whaley, Atlantic City. Babcock & Champion, Atlantic City, are attorneys.

CAMDEN, N. J.—Townsend & Co. has been incorporated with 1000 shares no par value to operate a foundry by S. E. Townsend, Haddonfield; Edmond H. Sharp, Camden, and Milton T. Townsend, Collingswood.

CAMDEN, N. J.—The International Motors Co. closed bids March 2, on a service station at Sixth street and Jefferson avenue. Faile, Seelye & Co., New York City, are architects in charge.

HOBOKEN, N. J.—Massarsky & Jaffe Co. has been incorporated with $50,000 capital to manufacture lead and lead products by Samuel Massarsky and Charles von Dreele, Hoboken, and Dan Jaffe, Jersey City. Pierson, Schroeder & Brand, Hoboken, are attorneys.

LINDEN, N. J.—The Harvester Corp., newly organized, has purchased property here for a plant for the manufacture of ester gum and paint dryers. William M. Cross, East Orange, N. J., is president.

NEWARK, N. J.—Newark Pipe Cutting & Thread Co. has been incorporated with 1000 shares no par value by W. H. Schoemer, Marie N. Schoemer, and Frederick W. Betschick. William K. Flanagan, Newark, is attorney.

NEWARK, N. J.—Consolidated Plumbing & Heating Supply Co. has been incorporated with $100,000 capital by William J. Harnisch, East Orange; Frederick A. Gunther, New York and Mathias B. Garrigan, Newark. Henry Schlittenhart, Newark, is attorney.

BROOKLYN, N. Y.—Rex Copper Works Inc. has been incorporated with $10,000 capital to manufacture brass and copper foundry products by William Walter Jr., 17 Jefferson avenue, White Plains, N. Y.; Jacob Florea, 120 Riverside drive, New York and Thomas F. McEvoy, 173 Barber street, Brooklyn.

COXSACKIE, N. Y.—General Foundry Products Corp. has been incorporated with $100,000 capital by H. A. Kelp, E. A. Webb and H. G. Lampman. Curtis & Warren, Coxsackie, are attorneys.

NEW YORK—A. C. Chesley Co., 704 East 133rd street, will build a 2-story plant for the manufacture of metal doors.

NEW YORK—Borough Metal Weatherstrip & Screen Co. has been incorporated with $10,000 capital by B. Osperstein and D. Lichtenstein. A. Gross, 261 Broadway, is attorney.

NEW YORK—Standardized Steel Products Co. has been incorporated with $10,000 capital by A. Danner, T. Stone and V. Stern. Prince & Loeb, 19 Cedar street, are attorneys.

NEW YORK—English-Whitman Products has been incorporated with $20,000 capital to manufacture machinery by F. T. Reiner, J. T. Keller and A. F. Louprette. E. M. & P. Grout, 115 Broadway, are attorneys.

NEW YORK—Reusch & Schlensog have been incorporated with $150,000 capital to manufacture automotive hardware by E. Reusch, H. P. Goulston and A. Fuchs. Gouston & Fuchs, 145 West Forty-fifth street, are attorneys.

NEW YORK—Sokolow Engineering Works has been incorporated with $5000 capital to manufacture machinery by C. Sokolow, I. Kauffman and S. Glabman. P. S. Glickman, 229 Broadway, is attorney.

CROSBY, N. D.—Evans & Buck Auto Co. has awarded contract to Olson & Orheim, Minot, for 1-story 30x75, steel and concrete garage.

CANTON, O.—H. J. Eberman is having plans made for a structural steel fabricating plant to be located at Allen avenue and the Baltimore & Ohio railroad tracks.

CANTON, O.—Electric Cleaner Co. has been incorporated with $10,000 capital by C. J. Adams, R. N. Howell, O. E. Kuendig, D. B. Day and Curtis M. Shetler.

CLEVELAND—Interlock Steel Co. has been incorporated with 500 shares no par value by C. D. Russell, H. S. Duffy, R. A. Cannon, P. H. Keough and H. K. Bell.

CLEVELAND—Graphite Bronze Co. has leased a building from the Properties Co., 880 East Seventy-second street, containing 40,000 square feet. This will allow the Graphite company double its previous floor space for production of automobile accessories. Ben F. Hopkins is president and J. J. McIntyre vice president and general manager.

BRISTOW, OKLA.—Airlift Co., manufacturer of oil well drilling tools, contemplate erection of plant shortly. J. J. Fitzpatrick is general superintendent.

BRISTOW, OKLA.—Modern Boiler Works, J. F. Sekey, manager, plans addition 100 x 150 feet to present plant and will install new machinery, including arc welding equipment.

CUSHING, OKLA.—Cushing Refining & Gasoline Co. has purchased the absorption gasoline plant of the Tower Gasoline Co. at Blackwell, Okla., and will install additional machinery, including new engines and compressors. R. H. Winget is general manager.

OKLAHOMA CITY, OKLA.—Arnold's Steel & Iron Mills has completed 75 x 180 corrugated iron building to house machine shop and warehouse for reinforcing steel.

OKLAHOMA CITY, OKLA.—Minneapolis Steel & Machinery Co. has taken out permit to do business in Oklahoma with Oklahoma City named as headquarters and Una L. Roberts, service agent.

OKMULGEE, OKLA.—Oklahoma Boiler & Welding Co., S. D. Lynn, manager, plans to acquire 50 x 200 foot site adjoining its present site for addition to plant.

TULSA, OKLA.—Hinderliter Tool Co. has taken out permit to operate in Texas and has established headquarters at Panhandle where

it will erect a branch warehouse and machine shop for repair of oil drilling tools. H. W. Hendershot is purchasing agent. (Noted Jan. 21.)

BRIDGEVILLE, PA.—Universal Steel Co. is building a 1-story addition 100 x 160 feet.

MC KEES ROCKS, PA.—Enterprise Stamping Co. will build a 1-story addition 100 x 236 feet.

PHILADELPHIA—A contract for a $12,000-machine shop for the Peco Mfg. Co., Hope and Tusculon streets, has been awarded to the John N. Gill Construction Co., 121 North Broad street.

PHILADELPHIA—Contract for a $40,000-warehouse for the Charles H. Elliott Co., Chadwick street and Lehigh avenue, has been awarded to Harry Gill Jr., 25-15 Germantown avenue.

PHILADELPHIA—Auto Gear & Parts Co. has been incorporated with $50,000 capital to manufacture automotive parts and accessories by Charles H. Scribner, Earl B. Morgan and George P. Henderson, 2254 North Seventeenth street, Philadelphia.

PITTSBURGH—Fire damaged a portion of the plant of the McKeesport Tin Plate Co., Port Vue near here, with heavy loss.

PITTSBURGH—Supply depot of Jones & Laughlin Steel Corp., McClurg and South Thirty-second streets, suffered fire damage which will be replaced.

PITTSBURGH—McKeesport Tin Plate Co. suffered fire loss in its grease shop at Port Vue, also destroying its carpenter shop and equipment. Rebuilding will be done at once.

PITTSBURGH—Crist & Schilker Co. Inc., 543 Fourth avenue, is building a 2-story plant 75 x 100 feet for the manufacture of metal products at Hawley and Forty-seventh streets.

PITTSBURGH—J. S. Morrison Co. Inc. has been incorporated with $50,000 capital to manufacture devices of steel, iron and other metals by Dan T. R. Dickson, Wilbur F. Galbraith and Kenneth R. Cunningham, 6500 Bartlett street, Pittsburgh.

SHARON, PA.—Pitwell Corp. has been incorporated with $50,000 capital to manufacture automotive devices, parts and accessories by W. S. Kimball, J. G. Hinds, J. S. Burwell, C. E. Brockway and John J. Cozadd, 490 South Dock street, Sharon, Pa.

ABERDEEN, S. D.—Dakota Sash & Door Co., J. A. McGregor, president, will rebuild plant damaged by fire and install new machinery.

AMARILLO, TEX.—Phillips Petroleum Co. has placed contract with Clark Bros. Co. for six 165-horsepower direct driven engine compressors for its new Panhandle gasoline plant and also contracted for four 80-horsepower engines as an addition to its plant recently acquired from the American Gasoline Corp. Company is understood to have placed tentative contracts for 20 units for the new Panhandle plant and will enlarge it to 25,000 gallons a day capacity.

DALLAS, TEX.—Equitable Meter & Mfg. Co., capital $1000, incorporated by Marguerite Barnett, L. C. Duncan and Henry A. Phillips.

DALLAS, TEX.—American Carbonic Machinery Co. has taken out permit to operate in Texas and plans establishment of branch plant. O. J. Bonis is state representative.

DALLAS, TEX.—American Body Co. manufacturer of automobile bodies, has increased capital from $35,000 to $60,000 to provide for new plant extensions.

DALLAS, TEX.—Simms Oil Co. will build an oil refinery employing high pressure cracking units in the Smackover, Ark., field to cost $750,000. An absorption type gasoline plant is being constructed in the same locality.

Refractories

FIRE CLAY BRICK
Per 1000 f.o.b. works

Pennsylvania, No. 1	$43.00 to 45.00
Pennsylvania, No. 2	35.00 to 40.00
Ohio, No. 1	43.00 to 46.00
Ohio, No. 2	38.00 to 40.00
Illinois, No. 1	40.00 to 43.00
Illinois, No. 2	35.00 to 38.00
Kentucky, No. 1	43.00 to 45.00
Kentucky, No. 2	40.00 to 43.00
Missouri, No. 1	43.00 to 46.00
Missouri, No. 2	35.00 to 38.00
Maryland, No. 1	43.00 to 47.00
Maryland, No. 2	39.00 to 42.00

SILICA BRICK

Pennsylvania	40.00
Chicago	49.00
Birmingham	48.00 to 52.00

MAGNESITE BRICK
Per Net Ton Seaboard Base

9 x 4½ x 2½	65.00

CHROME BRICK
(Per Net Ton)

9 x 4½ x 2½	45.00 to 48.00

F. R. Schneider, Magnolia building, is vice president in charge of operations.

EL PASO, TEX.—Acetylene Products Co., distributor of welding apparatus and supplies, has increased capital from $25,000 to $30,000 and plans construction of new warehouse.

FORT WORTH, TEX.—Edwin A. McPherson has contract for construction of Magnolia Petroleum Co. 275-mile 8-inch oil pipeline from Smackover, Ark., field to Beaumont, Tex., providing for six pump stations and welded construction throughout.

HOUSTON, TEX.—Texas Iron Works Sales Corp., capital $20,000, incorporated by A. W. Crosby, L. M. Pearce and J. D. Nixon.

HOUSTON, TEX.—Kettler Mfg. Co., capital $10,000, has been incorporated by M. F. Kettler, B. C. Dissen and C. V. Jarrell to manufacture a line of metal specialty products.

SAN ANTONIO, TEX.—Mission Machine & Supply Co. has increased capital from $15,000 to $20,000 to provide for new plant additions.

SAN ANTONIO, TEX.—O. N. Jaye Corp., capital $50,000, chartered by N. Jaye, T. Alex Taylor and E. L. Jaye to manufacture and deal in oil well drilling equipment.

WICHITA FALLS, TEX.—Worthington Mfg. Co., capital $50,000, chartered by Vern R. Hartman, Edison Jalonick and E. L. Ewen to manufacture internal combustion engines.

WICHITA FALLS, TEX.—Continental Oil Co. which recently acquired Texhoma Oil & Refinery Co. properties, plans enlargement of refinery to include new boiler house and wax plant. Mr. David, Continental building, Denver, is general superintendent of refineries.

WICHITA FALLS, TEX.—Waggoner Refining Co. will build a combination absorption and compression type gasoline plant in the South Vernon oil field to cost $500,000. Plant will be equipped to handle 4,000,000 cubic feet of gas a day. R. L. Moore is manager of Waggoner estate which will have charge of the installation.

SEATTLE—Winner Tool Co. has been incorporated with $50,000 capital by M. W. Dye and W. H. Hurt.

ALLOUEZ, WIS.—Great Northern railway has awarded general contract to the Peppard & Fulton Co., Board of Trade building, Superior, for steel and concrete ore dock to cost $1,000,000.

LA CROSSE, WIS.—Chicago, Burlington & Quincy railway will build 15 miles double track between Lytles, 10 miles north of La Crosse and East Winona, Minn.

MARSHFIELD, WIS.—Theodore Molzahn, Majestic building, LaCross, Wis., is low bidder at $189,290 for the general work on the addition to the Purdy vocational and junior high school, on which bids were opened Feb. 23. The work will cost about $300,000 in all. It is in charge of Architects Parkinson & Dockendorff, LaCrosse, Wis.

MENOMONEE FALLS, WIS.—Articles of incorporation have been filed by the Rim-Cut Can Opener Mfg. Co., capital stock $10,00, to manufacture household tools, utensils, hardware specialties and machinery. Incorporators are L. E. Peterson, J. L. Austin and J. E. Cummings.

MILWAUKEE—Milwaukee Air Power & Pump Co., J. R. Ball president, Keefe avenue, is having plans made for a 1-story addition 40 x 60 feet.

MILWAUKEE—The Atlas Metal Parts Co., 997 Fifteenth street, has increased its capital stock from $10,000 to $25,000 and contemplates enlargement of plant and production.

MILWAUKEE—The E. B. Tonnsen Co., 113 Harmon street, is taking bids through Architect R. E. Oberst for the construction of a $45,000 addition to its sheet metal working plant.

MILWAUKEE—Electro Flushing & Mfg. Co. has been incorporated with $40,000 capital to manufacture motor-operated devices for cleaning waste pipes and appliances for plumbers, by A. J. Willis, Ernest Jahn and Henry W. Tews, 32 North avenue.

MILWAUKEE—Architect Hugo P. Miller, 779 Third street, has completed plans and will close bids March 15 on a factory and warehouse building, 50 x 90 feet, 2-story, on Park street, near Muskego avenue. The name of the owner is not divulged.

WAUPUN, WIS.—Bids are being taken by the state board of control for remodeling and building an addition to the kitchen department of the state prison here. Refrigerating machinery and apparatus is included in the specifications. The state architect is Arthur Peabody. A. W. Bayley is secretary of the board, with offices at Madison, Wis.

Business in Canada

NEW WESTMINSTER, B. C.—Frank B. Hopkins, manager of the Seattle Boiler Works, Seattle, Wash., has made application to the city of New Westminster, for lease of a waterfront lot here as a site for a plant for the manufacture of boilers, etc.

NEW WESTMINSTER, B. C.—It is reported that the National Consolidated Industries, Ltd. will start construction work within 60 days on pulp mills here to cost $2,000,000. The mill will be erected on Poplar island. J. Randall Black of Edmonton, Alta.; George S. and John A. Whalen, the latter two formerly connected with the Whalen Pulp & Paper Co., are interested in the project, of which Summer M. Bump of California is president.

VANCOUVER, B. C.—The Asser Diesel Engines, Ltd., recently incorporated, will erect a plant on Granville island for the manufacture of an improved type of diesel engine, from 7-horsepower type for motor boats to large logging or vessel engines. Sydney Asser, president, has made a number of improvements on this type of engine, and they will be produced by the new company so as to weight only 100 pounds per horsepower. The company already has a number of orders.

VICTORIA, B. C.—The British Columbia Pulp & Paper Co. has been incorporated with

$1,000,000 capital stock, to take over the plant and operations of the Whalen Pulp & Paper Co., at Port Alice Quatsino sound. While plans of the company have not been made known, it is understood that the large mills at Port Alice will be reopened.

SHERBURNE, N. S.—The town council proposes to purchase stone crushing machinery etc.

BELLE RIVER, ONT.—Bids are being taken by Mederic Forget, clerk, for the construction of pumping station and power house. Equipment will be purchased later.

BOMANVILLE, ONT.—The Goodyear Tire & Rubber Co. has spent $120,000 on additions and equipment to its plant here and has still $60,000 to spend on completing buildings now under construction.

CHATHAM ONT.—City manager, C. H. R. Fuller, has been authorized to investigate the possibility of installing gasoline motor-connected pumps as substitutes for steam driven fire pumps which form the standard unit in the local waterworks plant.

FORT WILLIAM, ONT.—Negotiations between the Ontario hydro electric commission and officials of the Fort William hydro commission terminated in an arrangement whereby future power for the city will be supplied by the Ontario hydro commission from its Nipigon development. The arrangement includes the erection by the city of a sub-station and equipment capable of distributing the necessary power. Power from the Nipigon development will be ready before the end of this year.

GOWGANDA, ONT.—The Millcrest Mining Co. is completing arrangements for the installation of an electrically-driven mining plant here, according to William Fairburn, who is in charge of operations.

HAMILTON, ONT.—The pattern and machine shop of the Canada Wire Goods Co., Ferguson avenue, was damaged by fire with a loss estimated at $10,000. A. Donald is manager.

LEAMINGTON, ONT.—Alfred Hairsine, township clerk, Mersea, is taking bids for an 80-horsepower diesel engine, complete with all standard equipment for the East Marsh pumping station.

NIAGARA FALLS, ONT.—Bids will be received by B. Carr, secretary board of water commissioners, until March 10, for 5,000,000 gallon, electrically driven centrifugal pump.

NIAGARA FALLS, ONT.—The Canadian Shredded Wheat Co. Ltd., Lewis avenue, is having plans prepared for boiler house and will call for bids at an early date.

ST. THOMAS, ONT.—The Michigan Central railroad plans to install considerable new machinery and tools in its local shops during the coming summer, so as to make this one of the most up-to-date shops in Canada.

TRENTON, ONT.—Bids will be called immediately for a factory building here for Hinde & Dauche Paper Co. Ltd., 43 Hanna street, Toronto. Building and equipment will cost approximately $300,000.

MONTREAL, QUE.—The northern Electric Co., Ltd., 121 Shearer street, has taken out a permit for addition to its plant here to cost $372,000.

RIVIERE DU LOUP, QUE.—The Warren Pulp Co. proposes to start work at an early date on an addition to its mills here.

SHERBROOKE, QUE.—The Dominion Tool & Forgings, Ltd. has acquired a building here and proposes to remove plant and machinery from Montreal, Que., as soon possible. W. W. Wilson is manager.

THREE RIVERS, QUE.—The St. Lawrence Paper Mills, Ltd. will start work at once to double the capacity of its mills here. N. A. Timmins is president.

New Trade Publications

PRESSURE BLOWERS—American Blower Co., Detroit, presents in a current bulletin its pressure blowers and exhausters, with engineering data and full details of construction and operation.

OVENS—Revolving door ovens for drying, enameling and japanning are described in a catalog issued by Skinner Bros. Mfg. Co. Inc., St. Louis. The ovens are gas fired and have removable racks. Indirect heating is used.

PAINT SPRAYERS—Application of paint and lacquer finishes by means of compressed air is described in a bulletin by the Brunner Mfg. Co., Utica, N. Y. Various types of spray guns and compressors are shown and described and prices are given.

EXCAVATORS AND DREDGES—A folder describing its skid excavators and dredges has been issued by the Hayward Co., New York. A wide variety of buckets for many purposes is shown, with illustrations of actual installations.

CHAIN HOISTS—Ball bearing electric chain hoists are described in the folder issued by the Yale & Towne Mfg. Co., Stamford, Conn. These hoists are made with either push button or manual control and may be had with hook attachment or in the trolley type.

STOKERS—Detroit Stoker Co., Detroit, has issued a 24-page bulletin on its underfeed stokers, with illustrations covering its features, as well as the method of controlling movement of the fuel during the entire process of combustion.

PUMPS—Savings measureable in dollars form the text of a bulletin by the Goulds Mfg. Co., Seneca Falls, N. Y. Results of the experience of users are given with figures of differences in expense wrought by use of this equipment.

ROTARY SHEARS—Sheet metal cutting machines are featured in a bulletin by the Niagara Machine & Tool Works, Buffalo. Machines for cutting discs and rings are given prominence, though others of the line are shown.

GRAPHIC INSTRUMENTS—Use of recorders to aid in accurate setting of circuit breakers and overload relays for the protection of electrical machinery is described and illustrated in a bulletin by the Esterline-Angus Co., Indianapolis.

BARGE PUMPS—Wilson-Snyder, Pittsburgh, has issued a bulletin describing its pumps for barge service in loading and unloading. Features of the pump that make for speed in handling liquids are described. The bulletin also shows equipment for other branches of the oil industry.

FURNACES—A water cooled furnace which is said to eliminate wall maintenance and increase boiler capacity is described in a catalog issued by the Combustion Engineering Corp., New York. Diagrams showing its application to present boiler installations are given.

JIG BORING MACHINE—R. Y. Ferner Co., Washington, D. C., representative of the Societe Genevoise d'Instruments de Physique, Geneva, Switzerland, is circulating a catalog describing its high precision locating and jig boring machine. Features of this machine are fully covered and accessories shown.

ELECTRIC TRUCK SERVICE—A booklet by the automobile bureau of the New York Edison Co., New York, gives much information of value to users of electric trucks in that city. It contains route maps, ferry timetables, location of charging stations and other information.

STOKER—A catalog has been issued by the Combustion Engineering Corp., New York, describing its forced draft stoker, developed recently to meet certain conditions, especially the use of middle west bituminous coals. Details of the stokers are shown and cross-section diagrams of various settings for using a variety of fuels.

OILWELL CASING—A new size and weight of oilwell casing is featured in a current bulletin by the National Tube Co., Pittsburgh. It is of 13⅜-inch outside diameter and is designed for use in deeper work than the previous size, 12½ inches, would allow. Comparison of the new with the old combination of casings in deep work is made.

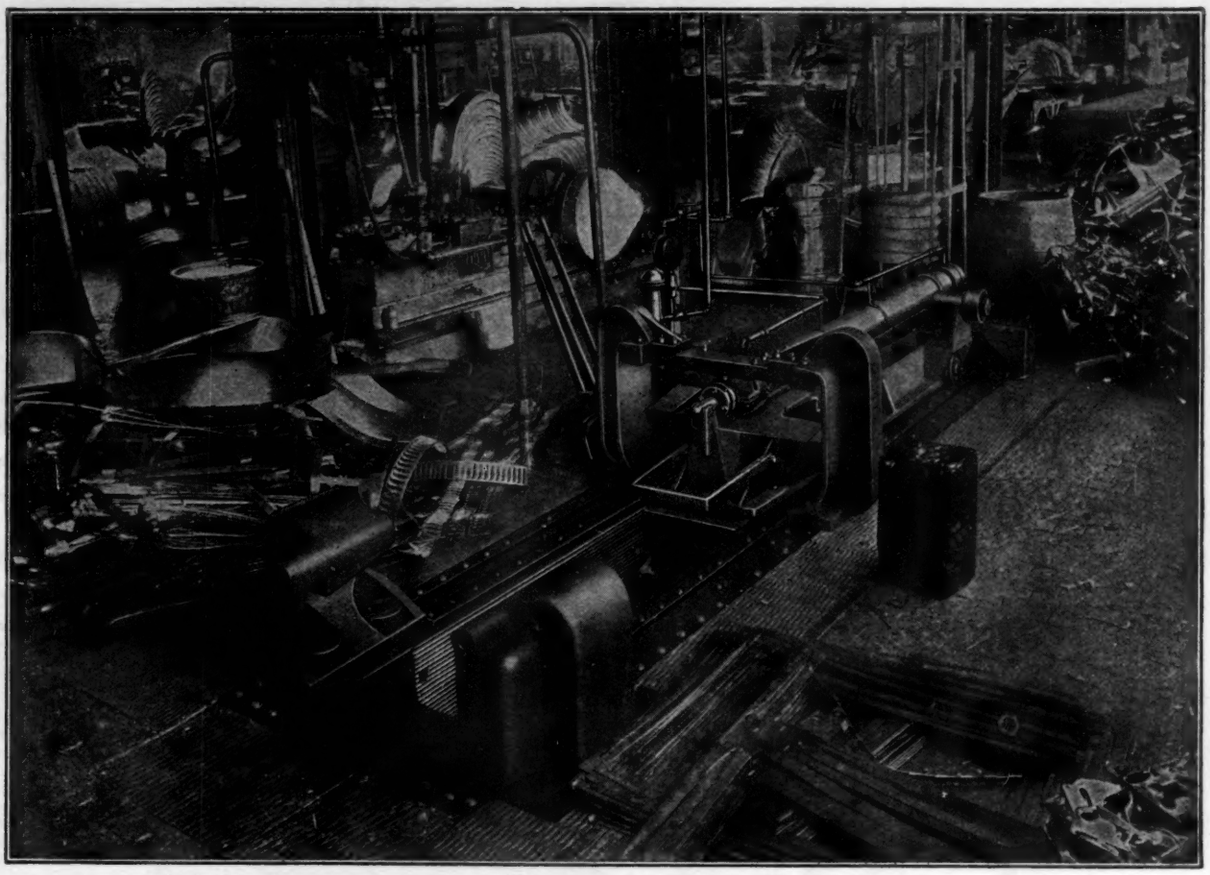
OPEN-HEARTH FURNACE—American Boshardt Furnace Corp., New York, has issued a booklet describing the open-hearth furnace of that name, the first American installation of which was described in IRON TRADE REVIEW, Feb. 4. Illustrations show the furnace and castings made from it, while the construction, operation and results are described fully.

HEAT TREATMENT—Use of the dilatometer in heat treatment of steel is described in detail in a bulletin by the Stanley P. Rockwell Co., Hartford, Conn. The theory of this instrument in determining the changes taking place in steel under heat is explained fully, with its application to practice in obtaining certain results in the crystalline structure of the metal.

TURRET LATHE TOOLING—First of a series of three booklets on modern tooling methods for turret lathes has been issued by the Warner & Swasey Co., Cleveland. It is devoted to bar work and includes chapters on better methods, problems, set-ups and tools. It is well illustrated and indicates proper uses of lathes and tools made by this company.

PNEUMATIC CONVEYORS—Elevating and conveying litharge and white lead in a paint manufacturing plant by means of its pneumatic conveying devices form the subject of a bulletin by the Dust Recovering & Conveying Co., Cleveland. Diagrams of the installation, halftones of the apparatus and full description of its operation and results are given.

SEPARATOR MAGNETS—A leaflet on the installation and use of separator magnets has been issued by the Electric Controller & Mfg. Co., Cleveland. This method of removing tramp iron from raw materials has been growing in recent years and is being applied to many uses, both to remove the danger of breakage of machinery from presence of the iron and also to salvage iron in waste material. Various installations are shown.



Typical Installation in Well-Known Automobile Plant

WHY SHEET-SCRAP CAN BE PROFITABLY COMPRESSED

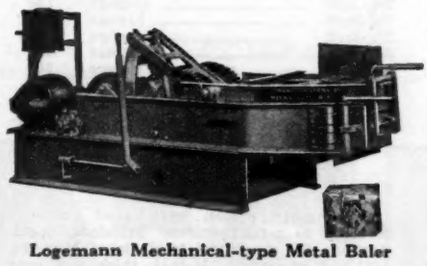
It commands at all times the best price;
It can be more conveniently stored;
It can be more economically handled;
It can be readily held for favorable markets;
It practically eliminates corrosion;
It permits of loading cars to capacity;
It saves much heat in remelting.

LOGEMANN SCRAP-METAL PRESSES

Hydraulic and Mechanical Types

LOGEMANN BROTHERS COMPANY
3126 Burleigh St. Milwaukee, Wis.

Also presses making crucible-size bricks of copper, brass, aluminum and other metals.



Logemann Mechanical-type Metal Baler

Please indicate character of scrap, quantity and heaviest gauge, when writing.

Discounts and Extras

Steel Pipe

Pittsburgh and Lorain basing discounts, jobber's carloads.

Evanston, Ill., and Indiana Harbor, Ind., take differential 2 points less discount of $4 per ton higher net.

Chicago takes differential 2½ points less than Pittsburgh-Lorain basis or $5 per ton higher net.

Butt Weld

	Black	Galvanized
⅛-inch	45	19½
¼ and ⅜-inch	51	25½
½-inch	46	42½
¾-inch	60	48½
1 to 3-inch	62	50½

Lap Weld

2-inch	55	43½
2½ to 6-inch	59	47½
7 to 8-inch	56	43½
9 and 10-inch	54	41½
11 and 12-inch	53	40½

REAMED AND DRIFTED

Butt Weld

1 to 3-inch	60	48½

Lap Weld

2-inch	53	41½
2½ to 6-inch	57	45½

EXTRA STRONG—PLAIN ENDS

Butt Weld

⅛-inch	41	24½
¼ and ⅜-inch	47	30½
½-inch	53	42½
¾-inch	58	47½
1 to 1½-inch	60	49½
2 to 3-inch	61	50½

Lap Weld

2-inch	53	42½
2½ to 4-inch	57	46½
4½ to 6-inch	56	45½
7 to 8-inch	52	39½
9 and 10-inch	45	32½
11 and 12-inch	44	31½

DOUBLE EXTRA STRONG

Butt Weld

½-inch	42	12½
¾ to 1½-inch	45	35½
2 to 2½-inch	47	37½

Lap Weld

2-inch	41	32½
2½ to 4-inch	43	34½
4½ to 6-inch	42	33½
7 to 8-inch	33	25½

(Note—Large jobbers obtain additional preferential discounts of 1 and 5 on black and 1½ and 5 on galvanized.)

Wrought Iron Pipe

Pittsburgh basing discounts, jobbers' carloads. Individual quotations made on delivered basis

TREADS AND COUPLINGS

Butt weld

¼ and ⅜-inch	+11	+39
½-inch	22	2
¾-inch	28	11
1 to 1½-inch	30	13

Lap Weld

1¼ and 1½-inch	Upon application	
2-inch	23	7
2½ to 6-inch	26	11
8 to 6-inch	28	13
7 to 12-inch	26	11

PLUGGED AND REAMED

Two points less than above

EXTRA STRONG, PLAIN ENDS

¼ and ⅜-inch	+19	+54
½-inch	21	7
¾-inch	28	12
1 to 1½-inch	30	14

Lap Weld

2-inch	23	9
2½ to 4-inch	29	15
4½ to 6-inch	28	14
7 to 8-inch	21	7
8 to 12-inch	16	2

DOUBLE EXTRA STRONG

Butt Weld

½-inch	+47½	+59½
½-inch	+28	+40
1-inch	+34	+40
1¼-inch	+28	+40
1½-inch	+27	+39

Lap Weld

2 and 2½ inches	+13	+25
3 to 4-inch	+ 8	+17
4½ to 6-inch	+ 9	+18
8-inch	+12	

(Note—Large jobbers obtain additional preferential discounts of 1, 5 and 2½ on black and galvanized.)

Boiler Tubes

Pittsburgh less carload discounts. Carload 4 points larger

STEEL (Lap Welded)

2 and 2¼-inch	23 off
2½ and 2¾-inch	33 off
3-inch	36 off
4¼ to 3¾-inch	38½ off
4 to 13-inch	42 off

(Note—Additional discounts of 5 to 7 extra 5 per cents now being given.)

CHARCOAL IRON

1½-inch	+22
1¾-inch	+12
2 and 2¼-inch	+ 2
2½ to 3-inch	3
3¼ to 4½-inch	5

(Note—Additional discounts of 2 or 3 extra 5 per cents now being given.)

SEAMLESS COLD DRAWN

1-inch	56 off
1¼ and 1½-inch	48 off
1¼-inch	32 off
2 and 2¼-inch	27 off
2½ and 2¾-inch	35 off
3-inch	41 off
3¼ and 3½-inch	43 off
4-inch	46 off
4½, 5 and 6-inch	41 off

SEAMLESS HOT ROLLED

2 and 2½-inch	30 off
2½ and 2¾-inch	38 off
3-inch	44 off
3¼ and 3½-inch	46 off
4-inch	49 off
4½, 5 and 6-inch	44 off

SEAMLESS STEEL MERCHANT BOILER TUBES

Extras:

Add $8 per ton for more than four gages heavier than standard and add 10 per cent to theoretical weight.

Add 5 per cent for lengths over 24 feet and not over 26 feet.

Smaller tubes than 1-inch and lighter than standard gage to be sold at mechanical tubing list and discount.

Intermediate sizes and gages not listed above take price of next larger outside diameter and heavier gage.

SEAMLESS STEEL MECHANICAL TUBING

Base Discounts on New List July 1, 1925

Carbon 0.10 to 0.20 per cent.....50 to 55 off

Carbon 0.30 to 0.40 per cent.....45 to 50 off

SEAMLESS STEEL LOCOMOTIVE AND SUPERHEATER TUBES

Net prices per foot f.o.b. Pittsburgh

Outside diameter	Gage	Price
2-inch	12-gage	14¼c
2-inch	11-gage	15c
2-inch	10-gage	16c
2¼-inch	12-gage	16c
2¼-inch	11gage	17c
2¼-inch	10-gage	18c
3-inch	7-gage	33c
5⅜-inch	9-gage	50c
5½-inch	9-gage	52c

Plus usual extras for forming and for long lengths over 18 feet and for commercially exact lengths.

Plate Extras

BASE

Rectangular plates, tank steel or conforming to manufacturers' Standard Specifications for structural steel, dated Nov. 24, 1922, or equivalent, ¼-inch thick and over on thinnest edge, (except for ¼-inch or 72 inches wide when ordered to weight in pounds per square foot—see width and gage extras), 100 inches wide and under, down to but not including 6 inches wide, 5 feet 0 inches long up to published limit in length but not over 80 feet 0 inch, are base. Extras per pound for width or diameter.

All Plates, Rectangular or Otherwise

¼-inch thick and heavier, but not less than 11 pounds per square foot, if ordered to weigh—

Over 100 inches to and including 110 inches	.05c
Over 110 inches to and including115 inches	.10c
Over 115 inches to and including 120 inches	.15c
Over 120 inches to and including 125 inches	.25c
Over 125 inches to and including 128 inches	.50c
Plates less than ¼-inch or lighter than 11 pounds per square foot.	
Over 72 inches to and including 84 inches	.10c
Over 84 inches to and including 96 inches	.20c
Over 96 inches to and including 100 inches	.30c

Over 100 inches add .35c to width extras for plates ¼-inch thick and heavier.

GAGE

Plates not Exceeding 72 inches Wide

Plates less than ¼-inch gage, to and including $\frac{7}{32}$-inch; or lighter than 10.2 pounds per square foot to and including 7.65 pounds per square foot ..... .20c

Plates Over 72 Inches Wide

Plates less than ¼-inch gage, to and including $\frac{7}{32}$ inch; or lighter than 11 pounds per square foot, to but not including 7.65 pounds per square foot ..... .20c

Plates ordered 7.65 pounds per square foot ..... .30c

QUALITIES

Pressing steel	.10c
Flange steel (boiler grade)	.15c
Ordinary firebox steel	.20c
Stillbottom steel	.30c
Locomotive firebox steel	.50c
Marine steel	1.50c
Hull material subject to U. S. Navy Dept. Specifications for Medium or Soft Steel	.10c
High tensile hull steel subject to U. S. Navy Dept. or equivalent specifications	1.00c
Boiler steel subject to U. S. Navy Dept. Specifications, classes A and B	1.50c

Hull plates to hull specifications, required to stand cold flanging, take extra for flange steel.

Floor Plates

Checkered plates 1.75c

Checkered plates are not furnished to sketch and are rolled from "Stock Steel" only. No physical tests will be made on checkered plates.

INSPECTION

Mill inspection .....No extra

Charges for other inspection, such as Lloyd's or American bureau of shipping, will be made by inspection bureau direct to buyer.

CUTTING

LENGTH OR DIAMETER

All Plates, Rectangular or Otherwise

Five feet and over up to published limit of length, but not over 80 feet....No extras

Under 5 feet to 3 feet inclusive	.10c
Under 3 feet to 2 feet inclusive	.25c
Under 2 feet to 1 foot inclusive	.50c
Under 1 foot	1.55c
Over 80 feet to 100 feet inclusive	.25c

Over 100 feet add .25c plus .05c for every additional 2 feet or fraction thereof.

Regular Sketches

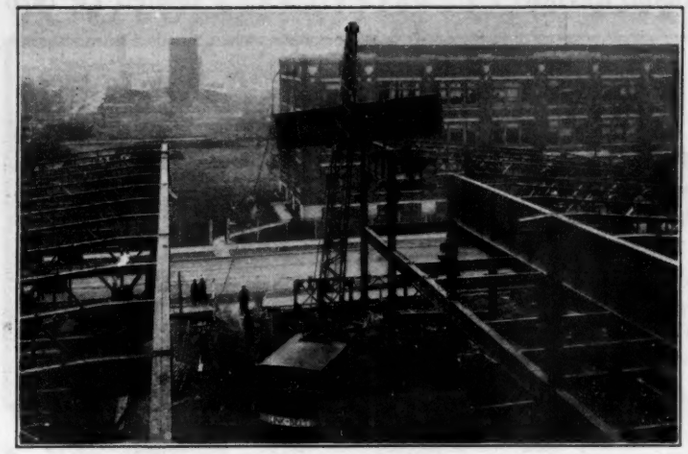
With not more than four straight cuts. (including straight taper plates)

Additional extra ..... .10c

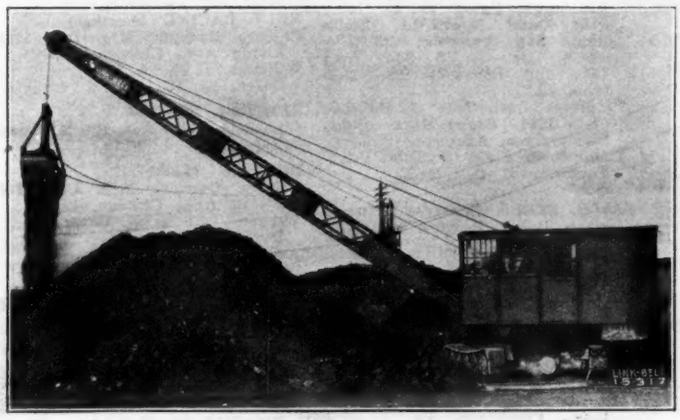
Irregular Sketches

With not more than four straight cuts. (Sketches cannot be sheared with re-entrant angles)

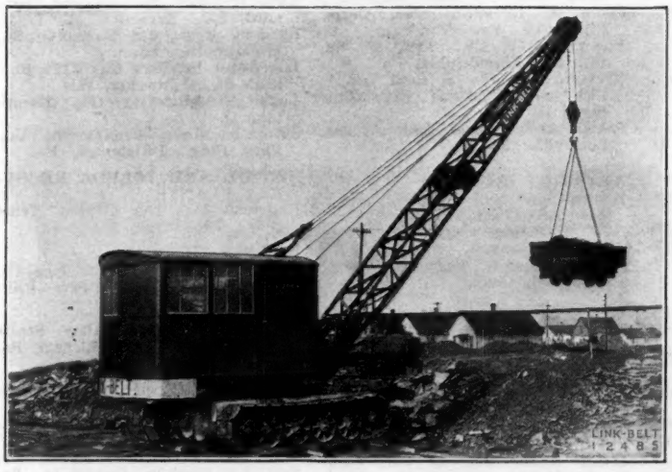
Additional extra ..... .20c



Link-Belt gasoline driven Crawler with 55-ft. boom erecting structural steel girders.



Link-Belt gasoline driven Crawler equipped with grab bucket used for unloading coal to storage piles.



Link-Belt gasoline driven Crawler with Hook Block lifting narrow gauge track car with refuse at a foundry.

Your work can be made easier through the use of a Link-Belt All-Purpose Crawler equipped with Grab Bucket Lifting Magnet Hook-block or other approved attachments.

Book No. 895 contains all the facts. Copy sent upon request.

2573A

LINK-BELT COMPANY

Leading Manufacturers of Elevating, Conveying and Power Transmission Machinery

CHICAGO, 300 W. Pershing Road — Offices in Principal Cities

LINK-BELT

"Built for Service" Crawler

"Where-To-Buy"

A classified-by-products list of advertisers for the convenience of readers. If you don't find what you want, write us and we will tell you where to get it. ¶Index to advertisements will give you page number of any advertiser and by referring to advertisement you can get full particulars about products.

ACCUMULATORS
Birdsboro Steel Foundry & Machine Co., Birdsboro, Pa.
Logemann Brothers Co., 3126 Burleigh St., Milwaukee, Wis.
Pennsylvania Engineering Works, New Castle, Pa.
United Engineering & Foundry Co., Farmers Bank Bldg., Pittsburgh, Pa.
Wood, R. D., Co., 400 Chestnut St., Philadelphia, Pa.

ACETYLENE (Dissolved)
International Oxygen Co., Newark, N. J.
Prest-O-Lite Co., The, 30 E. 42nd St., New York City.

ACETYLENE GENERATORS
Oxweld Acetylene Co., 30 E. 42nd St., New York City.

ACETYLENE IN CYLINDERS
International Oxygen Co., Newark, N. J.
Prest-O-Lite Co., The, 30 E. 42nd St., New York City.

ACIDS (Pickling)
American Chemical Paint Co., Ambler, Pa.

ADAMITE ROLLS
American Adamite Co., The, 12th & Etna Sts., Pittsburgh, Pa.

AIR COMPRESSORS—See COMPRESSORS (Air)

ALLOYS
Browne, deCourcy, Inc., 8 West 40th St., New York City
Electro Metallurgical Sales Corp., 30 E. 42nd St., New York City.
Lavino, E. J., & Co., Bullitt Bldg., Philadelphia, Pa.
Metal & Thermit Corp., 120 Broadway, New York City.
Titanium Alloy Mfg. Co., Niagara Falls, New York.
Vanadium Corp. of America, 120 Broadway, New York City.

ALUMINUM
Leavitt, C. W., & Co., 30 Church St., New York City.
Rogers, Brown & Crocker Bros., Inc., 21 E. 40th St., New York City.

ALUMINUM (Vanadium)
Vanadium Corp. of America, 120 Broadway, New York City.

ALUMINUM TUBING
Summerill Tubing Co., Bridgeport, Pa.

ANGLES, TEES, CHANNELS—See STEEL (Structural)

ANNEALING BOXES
Adamson Machine Co., The, Akron, Ohio.
Farrell-Cheek Steel Foundry Co., Sandusky, O.
Pittsburgh Malleable Iron Co., 34th & Smallman Sts., Pittsburgh, Pa.
Riter-Conley Co., Oliver Bldg., Pittsburgh, Pa.
Smith, George H., Steel Casting Co., Milwaukee, Wis.
Union Steel Casting Co., 62nd and Butler Sts., Pittsburgh, Pa.
United Engineering & Foundry Co., Farmers Bank Bldg., Pittsburgh, Pa.
Zanesville Malleable Co., Zanesville, Ohio.

APPRAISALS
McKee, Arthur G., & Co., 2422 Euclid Ave., Cleveland, O.

AXLES
Bethlehem Steel Co., Bethlehem, Pa.
Carnegie Steel Co., 431 Carnegie Bldg., Pittsburgh, Pa.
Champion Machine & Forging Co., The, 3675 E. 78th St., Cleveland, Ohio.
Illinois Steel Co., 208 So. LaSalle St., Chicago, Ill.
National Tube Co., Frick Bldg., Pittsburgh, Pa.

BALING PRESSES
Logemann Brothers Co., 3126 Burleigh St., Milwaukee, Wis.

BANDS AND HOOPS (Galvanized Strips)
Sharon Steel Hoop Co., Sharon, Pa.

BANDS (Iron)
Bethlehem Steel Co., Bethlehem, Pa.

BANDS (Steel)
Bethlehem Steel Co., Bethlehem, Pa.

BANDS (Welded Iron and Steel)
Akron-Selle Co., Akron, O.

BAR BENDERS
Kardong Bros., 346 Buchanan St., Minneapolis, Minn.

BARGES (Steel)
American Bridge Co., 71 Broadway, New York City.

BARRELS (Steel)
Cleveland Wire Spring Co., The, 1281 E. 38th St., Cleveland, O.

BARS (Acid Resistant)
Alcumite Corp., The, Dayton, O.

BARS (Alloy)
Central Steel Co., Massillon, O.
Donner Steel Co., Inc., P. O. Box 1000, Buffalo, N. Y.
Wheelock, Lovejoy & Co., Inc., 128 Sidney St., Cambridge, Mass.

BARS (Concrete Reinforcements)
Bethlehem Steel Co., Bethlehem, Pa.
Donner Steel Co., Inc., P. O. Box 1000, Buffalo, N. Y.
Franklin Steel Works, Franklin, Pa.
Gulf States Steel Co., Brown-Marx Bldg., Birmingham, Ala.
Laclede Steel Co., Arcade Bldg., St. Louis, Mo.
Pollak Steel Co., The, Cincinnati, O.
Ryerson, Jos. T., & Son, Inc., 16th and Rockwell Sts., Chicago, Ill.
Truscon Steel Co., Youngstown, O.

BARS (Iron and Steel)
Bethlehem Steel Co., Bethlehem, Pa.
Lockhart Iron & Steel Co., Pittsburgh, Pa.
Milton Mfg. Co., The, Milton, Pa.
Morris, Wheeler & Co., 30 th and Locust Sts., Philadelphia, Pa.
Penn Iron & Steel Co., Creighton, Pa.
Republic Iron & Steel Co., Youngstown, O.
Truscon Steel Co., Youngstown, O.

BARS (Steel)
Bliss & Laughlin, Inc., Harvey, Ill.
Carnegie Steel Co., 431 Carnegie Bldg., Pittsburgh, Pa.
Central Steel Co., Massillon, O.
Donner Steel Co., Inc., P. O. Box 1000, Buffalo, N. Y.
Franklin Steel Works, Franklin, Pa.
Illinois Steel Co., 208 S. LaSalle St., Chicago, Ill.
Illinois Steel Warehouse Co., 1319 Wabansia Ave., Chicago, Ill.
Inland Steel Co., First National Bank Bldg., Chicago, Ill.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Pacific Coast Steel Co., Rialto Bldg., San Francisco, Calif.
Ryerson, Jos. T., & Son, Inc., 16th and Rockwell Sts., Chicago, Ill.
Tennessee Coal, Iron & Railroad Co., 1351 Brown-Marx Bldg., Birmingham, Ala.
Youngstown Sheet & Tube Co., Youngstown, O.

BARS, STEEL (Electric Furnace)
Timken Roller Bearing Co., The, Canton, Ohio.

BASKETS (Wire)
Meyers, Fred J., Mfg. Co., The, Hamilton, O.

BEAMS, CHANNELS, ANGLES, ETC.
Bethlehem Steel Co., Bethlehem, Pa.
Carnegie Steel Co., 431 Carnegie Bldg., Pittsburgh, Pa.
Illinois Steel Co., 208 So. LaSalle St., Chicago, Ill.
Inland Steel Co., First National Bank Bldg., Chicago, Ill.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Phoenix Iron Co., The, 20 So. 15th St., Philadelphia, Pa.
Ryerson, Jos. T., & Son, Inc., 16th and Rockwell Sts., Chicago, Ill.
Snead Architectural Iron Works, Louisville, Ky.

BEARINGS (Ball)
Hoover Steel Ball Co., Ann Arbor, Mich.
New Departure Mfg. Co., The, Bristol, Conn.
Norma-Hoffman Bearings Corp., Stamford, Conn.

BEARINGS (Journal)
Hyatt Roller Bearing Co., Newark, N. J.
Keystone Bronze Co., 39th St., Pittsburgh, Pa.

BEARINGS (Motor)
Hoover Steel Ball Co., Ann Arbor, Mich.
Hyatt Roller Bearing Co., Newark, N. J.
Norma-Hoffmann Bearings Corp., Stamford, Conn.

BEARINGS (Roller)
Hoover Steel Ball Co., Ann Arbor, Mich.
Hyatt Roller Bearing Co., Newark, N. J.
Norma-Hoffman Bearings Corp., Stamford, Conn.
Timken Roller Bearing Co., The, Canton, O.

BEARINGS (Thrust)
Hoover Steel Ball Co., Ann Arbor, Mich.
Norma-Hoffmann Bearings Corp., Stamford, Conn.
Timken Roller Bearing Co., The, Canton, O.

BELT CEMENT AND DRESSING (Leather)
Williams, I. B., & Sons, Dover, N. H.

BELT DRESSING (Liquid & Paste)
B & H Engineering Laboratories, Inc., 4701 Grove St., Oakland, Calif.

BELT LACING (Leather)
Chicago Rawhide Mfg. Co., 1308 Elston Ave., Chicago, Ill.
Williams, I. B., & Sons, Dover, N. H.

BELTING (Chain)
Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.

BELTING (Leather)
Chicago Rawhide Mfg. Co., 1308 Elston Ave., Chicago, Ill.
Williams, I. B., & Sons, Dover, N. H.

BENCHES AND FRAMES (Drawing)
Morgan Construction Co., Worcester, Mass.
Vaughn Machinery Co., The, Cuyahoga Falls, O.

BENDING AND STRAIGHTENING MACHINES
Cleveland Punch & Shear Works Co., 3917 St. Clair Ave., Cleveland, O.
Hinman, D. A., & Co., Sandwich, Ill.
Kane & Roach, Niagara and Shonnard Sts., Syracuse, N. Y.
Kardong Bros., 346 Buchanan St., Minneapolis, Minn.
Logemann Brothers Co., 3126 Burleigh St., Milwaukee, Wis.
Long & Allstatter Co., Hamilton, O.
Sutton-Abramsen Engineering Co., Park Bldg., Pittsburgh, Pa.

BENZOL AND TOLUOL RECOVERY PLANTS
Koppers Co., The, Union Trust Bldg., Pittsburgh, Pa.

BILLETS (Forging)
Bethlehem Steel Co., Bethlehem, Pa.
Midvale Co., The, Nicetown, Philadelphia, Pa.

BILLETS (Forging, Alloy Steel)
Bethlehem Steel Co., Bethlehem, Pa.

BILLETS AND BLOOMS
American Rolling Mill Co., Middletown, O.
American Tube & Stamping Co., The, Bridgeport, Conn.
Andrews Steel Co., Newport, Ky.
Bethlehem Steel Co., Bethlehem, Pa.
Central Steel Co., The, Massillon, Ohio.
Donner Steel Co., Inc., P. O. Box 1000, Buffalo, N. Y.
Illinois Steel Co., 208 South La Salle St., Chicago, Ill.
Inland Steel Co., First National Bank Bldg., Chicago, Ill.
Interstate Iron & Steel Co., 104 S. Michigan Ave., Chicago, Ill.
Wood, Alan, Iron & Steel Co., Widener Bldg., Philadelphia, Pa.

BLANKS (Ring, Gear and Sprocket)
Akron-Selle Co., Akron, O.

BLAST FURNACES—See FURNACES (Blast)

BLOWERS
General Electric Co., Schenectady, N. Y.
Ingersoll-Rand Co., 11 Broadway, New York City.
Spencer Turbine Co., Hartford, Conn.

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